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ABSTRACT

In the second volume of this two volume document (See TE 002 130.), Thomas Shroyer, in "Aesthetic Theory and Linguistic Investigation," explores the connections between linguistic inquiry and the art theory of Susanne Langer. He attempts to provide the understanding necessary for the teaching of literary art as one product of linguistic composition. Illustrative investigations of five poems for classroom study are included. William Craig, in "Investigation of Syntactic-Semantic Relationships in the Selected Writings of Students in Grades 4-12," examines the writings of students for paratactic relationships, syntactic-semantic relationships, conjunction and restriction, and reification (embedding) and topicalization (internal organization). It is concluded, from a series of standardized tests, that (1) coordination and parataxis decrease as grade level increases, (2) nominalization, extraposition, and passivization increase as grade level increases, and (3) hypotaxis (subordination) remains relatively stable for all grade levels, but older students use nearly all the hypotactic operations in the language while younger students confine themselves to two or three. (JM)

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VOLUME II

# FINAL REPORT

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# A GRAMMATICO-SEMANTIC EXPLORATION OF THE PROBLEMS OF SENTENCE FORMATION AND INTERPRETATION IN THE CLASSROOM

Donald R. Bateman
Frank J. Zidonis

The Ohio State University
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Office of Education
Bureau of Research

# OTHER PROJECT PERSONNEL

Junior High School Language Arts Consultant

Jane Stewart

Research Associates

William E. Craig
Thomas G. Shroyer
Bruce Gansneder

Field Coordinator

Elizabeth Stockover

Consultant in Linguistics

Charles J. Fillmore

Cooperating Teachers

Sister Barbara Geary, O.S.F., St. Francis De Sales High School, Columbus, Ohio
Sister Mary Harrigan, O.P., St. Philip the Apostle Elementary School, Columbus, Ohio
Carol Ellen Hazard, St. Mary Magdalene Elementary School, Columbus, Ohio
Sister Ann Mary Jurka, S.N.D., St. Aloysius Elementary School, Columbus, Ohio
Sister Mary Seraphine Kuntz, S.N.D., St. Joseph Academy, Columbus, Ohio
Sister Helen Marks, O.P., Bishop Fenwick High School, Lancaster, Ohio
Sister Mary Norbert McLaughlin, O.P., Christ the King Elementary School, Columbus, Ohio
Patrick J. Mooney, St. Timothy Elementary School, Columbus, Ohio
Sister Mildred Uhl, O.P., St. James the Less Elementary School, Columbus, Ohio
Virginia Van Camp, St. Timothy Elementary School, Columbus, Ohio
Sister Barbara Wallace, O.S.F., St. Mary Magdalene Elementary School, Columbus, Ohio

Secretary

Ferne Caskey

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# SECTION THREE

# AESTHETIC THEORY AND LINGUISTIC INVESTIGATION

by

Thomas G. Shroyer

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# AESTHETIC THEORY AND LINGUISTIC INVESTIGATION

## PREFACE

This paper is written in the belief that education is fundamentally the symbolic exploration of experience, that symbolic exploration occurs in the two modes discursive and non-discursive, that the two roles of composer and interpreter are essentially the same in that they require similar if not identical skills, and that an investigation of language has direct implications for the child as composer-interpreter since language is the primary symbolism of discourse and the only material of the major art form of poesis. The English curriculum is at root an English language curriculum: the study of the language of literature, the language of informative writing, the language of speech, and so forth. As such, it purports to be a curriculum of study which educates children in the full range of linguistic forms which they need to explore the phenomena of the world around them and the world within themselves. Thus any teacher who wishes to help children learn better how to symbolically explore their experience must understand the nature of symbolic activity and the ways of inquiring into the nature of symbolic products. This understanding entails a knowledge of the connections between the linguistic properties of discourse and poesis (or at least a way of pursuing that knowledge). For children in the course of manipulating symbols do need help in extending their native capacities and can profit from an insightful inquiry into the characteristics of the symbolic instruments they employ.

This paper therefore is an attempt to explore the connections between linguistic inquiry and the art theory of Susanne Langer in the hope that a better understanding can be provided for the teaching of literary art as one product of linguistic composition. The format of the paper includes an introduction which sets forth the theoretical bases of this paper's educational perspective; and a series of exemplary inquiries into the linguistic properties of poetry, inquiries which are suggestive of a style of linguistic investigation potentially helpful to children engaged in composition or interpretation of poesis. This writer believes that such investigations have direct implications for discursive composition and interpretation as well, but these are left for the reader to discover.

The writer wishes to acknowledge the contributions of Professor L. Jane Stewart, a member of the Project Staff. A person who understands literature and the art theory of Susanne Langer and who has made the connections between that theory and her own teaching, Professor Stewart provided extremely helpful criticism and suggestions, which were included in this paper.

## INTRODUCTION: THE SYMBOLIC EXPLORATION OF EXPERIENCE

Aside from some physical skills and some perceptual skills, all important learning about experience depends on symbols. From the symbol system of language, to that of mathematics, to the unique symbols of art, the power of symbols is the power of human thought. Once we understand the two basic modes of symbolism (discursive and non-discursive) and the scope of experience which is symbolically explorable, we will have a rational basis for education and curriculum. Since the English curriculum encompasses the two modes of symbolism in language and literary art, it can be viewed as one instance of a theory of human education which is essentially the symbolic exploration of experience.

The term exploration was carefully chosen because it refers to a process which subsumes the activities of reading, writing, speaking, listening, and thinking; and these are the activities which, if related in a systematic way to a concept of education, are essential to the cognitive growth of any human being. In reality, the above list of activities is somewhat misleading since thinking is not a parallel and separate process from the others; rather it holds an intimate connection to them. Perhaps each is a form of thinking; and thought unembodied in any of these external forms may be silent speech.

Symbolic was chosen because it refers to the highest and most powerful type of cognitive activity. In its two modes, the discursive and non-discursive, it refers to the cognition manifested in all scientific (and pseudo-scientific) and all artistic activities.

Experience simply refers to all that is knowable: the objects and events in the world and the life feelings we have as living organisms, no more or less than the physical or imaginative products which result from human activity. As such, a pet, a dream, a national crisis, a painting or a poem, or even a word or sentence is a particular piece of our experience, though all of them are not on the same level of abstraction. What is important is not that we explore a pet or a poem or both, but that we know how to explore both. The child must know the nature of the thing to be explored and the process(es) by which it is explorable. The refinement or actualization of this knowledge through the exercise of symbolic activities is education.

A person lives in a chaotic environment in which he is constantly bombarded by sensory data from outside and inside his body. His education or self-actualization is a continuing process of organismic interaction with that environment from birth to death. As Bruner indicates, the first cognitive system employed by the organism is the enactive (1, p. 11). Enactive learning is characterized by the acquisition of physical skills, involving motor coordination. Behaviorist theory, dependent on the simple mechanistic view of serial stimulus-response operations, is most appropriate in describing this type of learning.

The second cognitive system is the iconic (1, p. 11). The representation of reality in the iconic mode is, as Bruner says, "principally governed by principles of perceptual organization and by economical transformations in perceptual organization . . . techniques for filling in, completing, extrapolating" (1, p. 11). He goes on to state that Gestalt psychology provides the most accurate account of this type of learning since it is "based solidly upon the analysis of the naive phenomenology of experience and the manner in which perception and memory are linked by the rule of phenomenal similarity" (1, p. 18). Both the enactive and iconic modes function at higher levels in ways complex and as yet unknown. (In taking up the art symbol we shall return to speculation about the relationship between the iconic and the symbolic in art.)

The last level of representation is the symbolic, whose principle manifestation is language. Art is another mode of symbolization. Langer has defined a symbol as "any device whereby we are enabled to make an abstraction" (2, p. xi). The power of abstraction then is a means for dealing systematically with the external and internal world. Furthermore she says, "Formulation, representation, abstraction: these are the characteristic functions of symbols" (2, pp. 376-77). Symbols give the world presentable form.

Now we can define education more specifically as the elicitation of the enactive, iconic, and symbolic potentials within a child through the exercise of their respective mechanisms. Since these levels of cognitive operation are natural--evolving to some extent by our just being alive and interacting with the world--the role of education must be facilitative rather than agentive. That is, formal education should provide the widest possible range of opportunities for the child to exercise and actualize his inherent abilities. However, opportunity does not entail coercion. Each child has different potentials in each mode of cognitive functioning and each child's respective potentials will differ in their level of realization at any particular time. Furthermore, every child has a unique set of past experiences and therefore a unique set of present-future experiences which are relevant to him. The three variables of potential in each mode, level of realization, and past experience are therefore critically determining factors in any education process; and the child, more than anyone else, must be the source of his own direction, for the answer to what is best for him is in him uniquely. Clearly we can conclude that as he has done from birth each child must direct most of his own education, given a rich source of carefully selected opportunities to do so. In this way he can effectively explore his own experience and the experiences of others through their appropriate objectification. (It is only through the conscious apperception of the objectified, symbolized, thoughts of others that we are able to think or imagine beyond our own limited experience.)

While this apparent "permissiveness" may be construed as a claim that education will occur in large measure independently of schools and teachers, it cannot be misunderstood to rule out what Friedenberg calls a responsibility for clarity: "Regardless of the uses to which any society may put its schools, education has an obligation that transcends its own social function and society's purposes. That obligation is to clarify for its students the meaning of their experience of life in their society" (3, p. 75).

Clarity has two prerequisites: careful formulation and systematization. Experience must be given form and that form examined for adequacy. The formed experience, perhaps the form alone, can then be fitted into some larger structure which provides relational significance; this is theory construction. Each child's set of structures may well be unique, but it is not the exact nature of the structures that is as important as the experience of structure-making itself. That is, the precise manner and mode in which experience is formulated into a structure and what the end-product is like are less important than the effect on the child of learning how to make structures. This learning how occurs from the child's engaging in the process of formulating, experiencing an evolving and finally complete structure of his own making, and seeing how that structure fits into larger and larger structures of his own or others' making. (This point will be considered further in the context of literary art and literary art education.)

What are symbols? What effects do they have on their users? We know that the internal and external phenomena which impinge on the senses of a person have meaning and form far beyond the selectivity imposed by the limitations of the sense organs themselves. We know, in other words, that the human mind gives shape to the world. Langer says that the symbolism of language

> breaks up what William James called the "blooming, buzzing confusion" of sense perception into units and groups, events and chains of events--things and relations, causes and effects. All these patterns are imposed on our experience by language. We think, as we speak, in terms of objects and their relations. (4, pp. 70-71)

Elsewhere she says:

> We observe and hold in mind essentially what is "speakable". . . . The formulation of thought by language, which makes every person a member of a particular society, involves him more deeply with his own people than any "social attitude" or "community of interests" could do . . . . Whatever brute fact may be, our experience of it bears the stamp of language. (2, p. 220)

Here the emphasis is on the effects of language on our perceptions, on our processing of input data. Like a theory in science, it imposes an interpretational form or structure on the pre-conceptual, pre-verbal data; and that structure perforce ignores some data while clarifying and relating the rest.

Elsewhere we find proportionate emphasis on the effects of language on output data: behavior. For example, Bruner says, "Language, in short, provides an internal technique for programming our discriminations, our behavior, our forms of awareness" (1, pp. 108-9). Moreover, in referring to our capacity to mentally manipulate reality, he indicates that "the way of language in knowing is the most powerful means we have for performing transformation on the world, for transmuting its shape by recombination in the interest of possibility"(1, p. 109); and "the combinatorial or productive property of language is an invitation to take experience apart and put it back together again in new ways" (1, p. 105).

Certainly our own experience in routinely "thinking out" alternate behaviors in a given situation--weighing their relative merits, consequences, and requirements--is confirmation of the role of language in shaping our behavior. Other examples are easily found in the positive or negative reinforcement in what others say about us. Extensive research indicates that being told what we will find in some situation virtually assures our finding it even in the face of its absence (5). Psychotherapists know well both the impact of the verbal experience of a child in a home where parents are rejecting and the counterinfluence which can prevail in a verbally supportive therapy situation. The extent of the influence of language can be seen in the patient's verbal repetition (sometimes over long periods) of a formed event which is the source of much of his anguish. This extent may even be seen in the subsequent alleviation of that anguish, for it seems as if the person, by giving form to his experience, has made it manipulable and finally psychologically manageable.

Paul Goodman describes organic and creative speech as follows:

> (a) . . . speech [is] . . . the shaping expression of pre-verbal needs and experiences, by which a speaker first discovers what he is thinking. Such speech cannot be entirely pre-thought and controlled; it is spontaneous.
>
> (b) . . . speech [is the act of] . . . personally initiating something by launching into an environment that is unlike oneself. Initiating, one presumes there is no consensus; otherwise why bother speaking?
>
> (c) Most important of all, . . . speech [is] . . . dialogue between persons committed to the conversation--or between a person and a subject-matter in which he is absorbed. This results in change of persons because of the very act of speaking . . . . Speaking is a way of making one's identity, of losing oneself with others in order to grow. It depends not on prior consensus with the others, but on trust of them. (6, pp. 78-79)

One interesting feature of these remarks is that they could apply as well to reading, writing, and listening. The reader who genuinely enters the work he is reading, who opens himself to it, discovers the thought in it; he believes the thought to be new, else why read? Likewise, the writer discovers as he writes what he is thinking and he has an audience for that formed thought even if it is only himself. Perhaps the writer must always be the first audience in such creative "thinking" since he has to try to perceive the work as if he were the audience in order to validate it. Furthermore, Goodman's emphasis is clearly on the emotional-psychological aspects of human speech, both intrapersonal and interpersonal. It is verbal communion to which he refers: "pragmatic, communal, poetic, . . . heuristic" (6, p. 79).

Traditionally the English curriculum with its emphasis on reading, writing, listening, and speaking has offered the greatest potential of any area as a vehicle through which children might explore their experience and the experience of others. However, if it has given the student an opportunity to engage in these activities, such opportunity has rarely been in a context of the full scope and depth of his own experience or the relevant experience of others. Neither has it provided a balanced and knowledgeable approach to each separate activity. (For example, one need only reflect on how much talking the teacher does at the expense of the children's opportunity to speak, read, and write.) In fact, it is often the case that precisely the life content and the cognitive activities which are most "realistic" and useful for each child are viewed as outside the curriculum. At a time when he most needs new forms for his experience, to understand his past and direct his future, he finds in their place content and activities that are irrelevant, vacuous, and distorted. The language he studies is artificial textbook language, approached through inadequate and vague grammars which his intuitions recognize as false; and the literature he studies is often unrelatable to his life. He will probably report that poetry seems foreign, unnatural, difficult, and even repulsive.

Given a view of education in which the child's life content, potentialities, and stages of development must be crucial in determining what is done and how it is done, we must view the symbolism of language and the symbols of art not as the content of study but primarily as instruments, as the modes in which children explore other content. Their first need is to give form to their experience and to know the experience of others _through_ symbols and to experience symbols in order to explore the possibilities of form. Only if a direct examination of symbols _qua_ symbols furthers the child's use of them in formulating and perceiving experience can such an activity be justified. It should never occur as the primary exercise, never occur out of sight of experience. A logic of symbolic forms does not belong in the schools.

An examination and refinement of formed-experience through symbolic manipulation and the acquisition of new forms of thought is the same natural process which occurs during the normal growth of the human organism. Bruner says of mental growth:

> 1. _Growth is characterized by increasing independence of response from the immediate nature of the stimulus._ . . . (i.e., increasing symbolic mediation)
> 2. _Growth depends upon internalizing events into a "storage system" that corresponds to the environment._ . . . (i.e., acquisition or unfolding of new and more complex symbols)

> 3. Intellectual growth involves an increasing capacity to say to oneself and others, by means of words or symbols, what one has done or what one will do. . . . (i.e., increasing capacity to manipulate symbols)
> 4. Intellectual development depends upon a systematic and contingent interaction between a tutor and a learner. . . . (i.e., as a field for manipulation and a source of new symbols)
> 5. Teaching is vastly facilitated by the medium of language, which ends by being not only the medium of exchange but the instrument that the learner can then use himself in bringing order to the environment. . . . (i.e., language as one kind of symbol system)
> 6. Intellectual development is marked by increasing capacity to deal with several alternatives simultaneously. . . . (i.e., again increasing capacity to manipulate symbols)(1, pp. 5-6, parentheses added)

It would be difficult not to believe that the exercise of the symbolic capacity produces a form of cognitive growth just as the exercise of the enactive produces physical skills and the iconic produces greater imagistic integration. Speaking/writing affords the opportunity to formulate experience and to discover its meaning; listening/reading affords a similar opportunity to examine the form and content of the experience of others. These opportunities create the further possibility that the child may acquire new forms for the contemplation of his own experience, real and imaginary. Thus any English curriculum which purports to educate children's symbolic capacities must reflect the aspects of symbolic activity. James Moffett has constructed such a curriculum (7,8). It is based on the division of symbolic activity into speaker/writer and listener/reader and into the various levels of abstraction or generality. This curriculum and accompanying theory is an outstanding one in the field of discursive symbolism education. The complementary task of establishing the educational requirements of the field of non-discursive symbolism (art) has yet to be done.

What is art, specifically literary art, that it must be set apart from discourse? What does art symbolize that discourse cannot? How is the symbolic process of art different from that of discourse? How is the symbolic function of art similar to that of discourse? How is the structure of literary art education similar to that of science or discourse education? These are the questions we must answer if we are to show that literary art has a place in any curriculum based on the symbolic exploration of experience.

Langer indicates that the essential feature of a symbol is is its power of abstraction, by which the human mind may recognize "a relational structure, or form,* apart from the specific thing (or event, fact, image, etc.) in which it is exemplified" (4, p. 163). Thus we can notice the form or structure of a flower, the human circulatory system, or a football play only through symbols, spoken, written, or thought. But if an art object such as a poem is a symbol and if a sentence in ordinary conversation or in a scientific treatise is a symbol, both must provide us with a means whereby we can recognize the structure of some piece of reality. Abstraction functions both in art and science. However the similarity ends here. For there are two processes of abstraction and as Langer says, "the two characteristic processes of abstracting a form from its concrete embodiment or exemplification go back . . . as far as the fundamental distinction between art and science itself . . ." (4, p. 164).

The two distinct meanings of "form" reflect this difference in abstracting. First there is logical form, "the structure of propositions expressed either in ordinary language or in the refined symbolism of the rational sciences" (4, p. 164). Then there is artistic form, which is a "perceptual unity of something seen, heard, or imagined--that is the configuration, or Gestalt, of an experience" (4, p. 164). The latter form is also "logical" in that it exhibits a discernable arrangement of parts, though that arrangement does not meet the external requirements which every piece of discourse must meet: the requirements of scientific logic. The symbolism of logical form enables us to progress step by step toward the final grasp of a presented idea, to progress toward understanding with cumulative insight, by giving to our perception elements whose interpretations are singulary and fixed at the moment they are given in individual propositions. As we read an essay or listen to someone's reasons for spanking his child, we gradually add to our understanding through such fixed statements. When we have interpreted the meaning of the final proposition, we are able to see the additive effect of each part on our comprehension of the whole.

On the contrary, artistic form presents a form whose elements are not fully interpretable until the final one has been processed.

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*The term "form" presents a number of problems. It refers both to the pattern or arrangement of physical parts and to the purely mental pattern or arrangement of mental "entities." Mental form is far from being understood and thus reference to it either in this paper or in the works of Langer is potentially as dangerous as it is necessary. Therefore when we use the term alone or in the phrase "artistic form" we do so with the knowledge that although there are doubtless such mental realities--art and discourse are sufficient evidence--we cannot directly define them.

In poetry, for example, we read each line or phrase or word with a tentativeness which keeps open the many possibilities of reinterpretation based on the nature of later elements. No full understanding comes until the last line has been comprehended and the total import of the work has been seen immediately then as the result of the complex interaction of the many parts. This tentativeness and openness to reinterpretation is in marked contrast to the mode of discursive perception. It is the very process of changing significance within the artistic work which gives it its appearance of aliveness.

This distinction between the cumulative and fixed interpretation of discursive elements on the one hand, and the immediate and tentative interpretation of non-discursive elements on the other can be illustrated. In the case of painting, the viewer can physically take in the whole at once; this initial act does not however necessarily constitute immediate artistic perception. He may look at particular elements within the painting and give them a tentative interpretation, but until he has interpreted each in the light of every other the act of immediate perception cannot take place. In a poem, even a short one, the entire poem cannot be perceived at once as a painting can be. Its material is language and must therefore be experienced serially. However, the act of immediate artistic perception does occur after the reader has proceeded through the poem, giving each line or element a tentative interpretation and reinterpretation in light of everything that precedes or follows it. Perhaps the following poem may serve to illustrate this point.

Upon A Child

--Herrick (9, p. 224)

If one attempts to read this poem as discourse, he may detect the ambiguity of the first three lines and certainly find it distracting. In fact, he is likely to read them as referring to a sleeping child rather than a dead one. Thus when he reads the last line he is forced to return to the first three in order to reinterpret them. Such a return is distracting and a flaw in discourse. However, if he reads the poem non-discursively, he suspends by necessity any fixed meaning until the end; in fact, he looks actively for as many possible meanings as may be in the lines, adding and subtracting as the context widens or narrows. The last line of this poem is perfectly "logical" artistically:

the image of the speaker near the grave of a child feeling the irony of life and death is at once unitary and imaginable. The ambiguity is an essential part of the whole rather than a flaw. Thus, the immediate perception of the whole is not temporal in the sense that the reader sees all the words at one instant, but in the sense that after he has read and understood them all he sees the poetic image at one instant. Following this insight, he can proceed to make distinct the elements of the total work. The symbolism of art is therefore "a physical or imaginal whole whereof the details are articulated, rather than a vocabulary of symbols that may be combined to present a coherent structure. That is why artistic form is properly called 'organic' and discursive form 'systematic' . . ." (4, p. 167). This statement applies equally to both the process of creating an art work and to that of perceiving it.

While paints, lines, and volumes in a painting have no denotation, no reference, and therefore no distracting "content," the language in poetry does have reference. Why is it claimed that this reference does not contribute directly to the structure of a literary art work? To deal with this question we need to understand what art symbolizes, as opposed to what discourse symbolizes.

Science conceptualizes the form of objective reality, of physical existence including the human body and its surroundings. Its goal is to systematize through greater and greater generalizations the structure and details of the physical world. This goal is linked directly to words and propositions as generalizations which refer beyond themselves to classes of things in the world. When we say or write discourse we are pointing to a class of objects or events or to a particular object or event which is a member of a class. Likewise, as listeners/readers we are directed to that aspect of the world to which the statement refers. The words themselves are instruments of thought and denotation. On the other hand we have no discourse for, no way of referring to, the feeling of a human-life-in-the-world: how it feels to be alive, to have an idea, to imagine. Intuitively we know that the universe of feeling must be as complex and broad in scope as the universe of physical reality, yet our language provides only the crudest means of designating even a small part of the life of feeling. We have such words as "love," "hate," "joy," and "elation," yet we know that they cannot accurately refer to their many complex and interrelated referents. Moreover, those referents are emotions and as such are only a small subset of life-feelings. At times we may feel what could be referred to by no word or by several words whose meanings appear contradictory.

Often we refer to some objective event in an attempt to clarify our presentation of a feeling. We seemingly perceive an intuitive similarity between our present feeling or imagined feeling and that which could be produced in some other situation. For example, a speaker might say, "I am frightened." Then as if sensing the inadequacy of this proposition, he may add, "I feel as if I had fallen off a cliff." This circumlocution could be paraphrased as follows: "I feel the way I think I would feel if I had fallen off a cliff." Asked again to describe his feeling, he might revert to a description of symptoms: chills, weakness, and so forth. He cannot conceptually approach his feeling directly. Langer quotes Otto Baensch approvingly as he comments on this fact.

> Certainly . . . feelings as experienced qualities are not vague or indefinite at all but have a very concrete and particular character. But to conceptual treatment they are recalcitrant as soon as we try to go beyond the crudest general designation; there is no systematic scheme that is subtle enough in its logical operations to capture and convey their properties.
>
> Nothing, therefore, avails us in life and in scientific thought but to approach them indirectly, correlating them with describable events, inside or outside ourselves, that contain and thus convey them; in the hope that anyone reminded of such events will thus be led somehow to experience the emotive qualities, too, that we wish to bring to his attention. (2, p. 21)

It is this realm of subjective feeling, rather than physical reality, that art conceptualizes; art is the means whereby the structure of feeling is rendered symbolically knowable.

Now we can understand the similarities between the function of discursive language and that of art. As Langer says:

> [a]s soon as the natural forms of subjective experience are abstracted to the point of symbolic presentation, we can use those forms to imagine feeling and understand its nature. Self-knowledge, insight into all phases of life and mind, springs from artistic imagination. That is the cognitive value of the arts . . . . [T]he arts we live with . . . actually form our emotive experience. (4, pp. 71-72)

She further explains:

> [f]or, (1) art makes feeling apparent, objectively given so that we may reflect on it and understand it;

> (2) the practice and familiar *knowledge of any art provides forms for actual feeling to take, as language provides for sensory experience and factual observation*; and (3) art is the education of the senses to see nature in expressive form. (4, p. 73, italics added)

It is by these, in our case literary, forms that children can be brought to explore their own experiences. To state the matter in an oversimplified way, we can say that they may begin with their own experiences, perhaps emotions, since these are more manageable and more obvious to them than more subtle kinds of life-feelings. The goals of literary art education would be to increase subtlety of feeling, which children would objectify through poetic creation; and to increase subtlety of formed feeling, which they would perceive imaginatively through experience of the poetry of others. These new forms would then be integrated into their cognitive repertoire to enhance their ability to conceive feeling. Langer's statements suggest that art works provide such concepts of the structure of feeling and thus structures for the conceptualization of further feeling.

One conclusion we could draw about the similarity between discourse education and literary art education is that both should offer opportunities for a wide range of symbolic experience, both formulational and interpretational, to enable children to acquire new forms of thought and feeling as explorers of their own worlds and the worlds of others; and to enable them to systematically integrate those forms into larger and larger cognitive structures.

We have not answered the fundamental question of how art presents forms of subjective experience when it does not *refer* to them. Langer indicates that a "formal analogy, or congruence of logical structures, is a prime requisite for the relation between a symbol and whatever it is to mean. The symbol and the object symbolized must have some common logical form" (2, p. 27). Yet she suggests that a sentence fulfills this requirement:

> A complex symbol such as a sentence . . . as opposed to an associative symbol such as a word . . . is an *articulate form*. Its characteristic function is what I call *logical expression*. It expresses relations; and it may "mean"--connote or denote--any complex of elements that is of the same articulate form as the symbol, the form which the symbol "expresses." (2, pp. 30-31)

Then a sentence perhaps at the level of deep structure must have the same form as the thing it symbolizes; likewise a poem must meet the same requirement of congruence of structures. It is this congruence plus the lack of reference which makes the poem appear to be an organic feeling: feeling seems to inhere in the work itself. Since the words in the work do not refer to any aspect of feeling in themselves, they are simply elements arranged in a particular structure. The poem is an image made out of diverse materials (words) of the form of feeling which its maker has been able to imagine. As such, the poet (and reader) must make use of linguistic skills in a fashion which exceeds the rules of ordinary discourse. He must know words, their meanings, sounds, and syntactic-semantic sentence patterns, but he must also exercise extra-linguistic skills in artistic composition. As we shall see, ideas of feelings demand syntactic-semantic effects which are often different from, though relatable to, those of ordinary discourse.

If a poem is a structure of imagined feeling, why can that structure not have a name, a word associated with it by conventional reference? First, words are associated with concepts which capture the generality of the world while poems capture the particularity of feeling. Second, words refer to things in the world while poems present ideational structures. What a poem presents then is a unique structure of feeling for our cognition. (We might add for clarification that since the poem involves a cognitive structure the poem can never be the direct unmediated expression of real emotion: real emotion or any other kind of feeling can have no pre-cognitive structure since structure is a product of cognition.)

Before we proceed to detail the characteristics and function of literary art and to consider their curricular implications, we can briefly summarize some of our observations. Art is abstract; it abstracts the form of a unique feeling. Discourse is also abstract; but it abstracts a form which is general to more than one phenomenon. Art is presentational; it presents a form for imaginative perception. Discourse is referential; its form refers to relationships among physical phenomena. Art is symbolic; it symbolizes the form of feeling. Discourse is also symbolic; but it symbolizes the form of the external world. Art is organic; its form is given as an immediate, unconcatenated, Gestalt. Discourse is "logical"; its form is given as a serial accumulation of ideas.

Another way of presenting the realms of art and discourse might be as follows:

| | ART SYMBOLS | DISCURSIVE SYMBOLS |
|---|---|---|
| WAYS OF DEALING WITH SYMBOLS AND THEIR CONNECTIONS TO REALITY AS ASPECTS OF REALITY | Philosophy of Art | Philosophy of Language |
| WAYS OF ANALYZING SYMBOLS | Literary Criticism | Linguistic Analysis |
| SYMBOLIC COPINGS WITH REALITY | Poems, Plays, Novels, etc. | Theories, Descriptions, Speculations, Reports, etc. |
| ASPECTS OF REALITY | Subjective Reality: Feelings, Emotions, Tensions, etc. | Objective Reality: Objects, Events, etc. |

It is obvious that coping with subjective reality and objective reality involves structure-making (and structure-perceiving)--exploring internal and external experience entails writing/reading poems and discourse. Yet it is equally true, as we shall later see, that as those structures become objects of experience to be explored, the child engages in structure-making of a higher order: the structure-making of literary analysis and discourse analysis.

How does the poet create a work so that the form of feeling inheres in that work? The comments of Baensch are put forth approvingly by Langer as follows:

> . . . How can we capture, hold and handle feelings so that their content may be made conceivable and presented to our consciousness in universal form, without being understood in the strict sense, i.e. by means of concepts? The answer is: we can do it by creating objects wherein the feelings we seek to hold are so definitely embodied that any subject confronted with these objects . . . cannot but experience a non-sensuous apperception of the feelings in question . . . . (2, pp. 21-22)

The key to this kind of presentation of the form of feeling may reside in part in what Bruner termed the iconic mode of cognitive representation. Here the human being links perception and memory "by the rule of phenomenal similarity" (1, p. 18). He indicates that "affective . . . factors affect imagery and perceptual organization . . . " (1, p. 18). It seems to be this kind of cognitive process which is at work in primitive man when he identifies such phenomena in the physical world as the respective seasons with his subjective emotional states. This cognitive identity of external with internal phenomena provides the basis for fundamental thought in which the "symbol" presents to man's imagination both a piece of the external world and his feelings about it: both are for him one and the same. It is perhaps this very phenomenon which is present when the child identifies some object with his experience of it, for example, a stove with the pain of being burned. It may well be iconic functioning, the perception of feelings as inhering in objects or events, which forms the basis of art. The artist, let us suppose, operates with this representation in order to make it objectively perceivable. In the medium of literature, he embodies his iconic "thought" in the symbolism of language. But since language is basically discursive, he must struggle against its restraints in order to produce a symbol which corresponds to the features of the iconic image.

The mental processes by which the iconic and symbolic interact (if indeed they do) to produce a work of art are far from being understood. However, the works themselves do provide significant data for analysis. By examining word order and choice, metaphor, sound, and other linguistic devices, we may be able to arrive at certain conclusions about the nature of the creative process. In other words, the semantics and syntax of particular poems may permit more general insights about poesis. For example, some people have observed that metaphor brings together disparate elements into a meaningful unit. These people then proceed to debate whether the unified elements are similar or dissimilar when in fact they are both. Our language, being a medium of discourse, is essentially categorial: some X in the world either fits a particular category or it does not. Thus when the discursive words in a metaphor are connected to mutually exclusive categories, the metaphor appears to link dissimilar elements. However, just as a season becomes a symbol for some particular feeling and is perceived together with that feeling as an imaginative whole, so the "dissimilar" elements of a metaphor are linked for their perceptual, "phenomenal" similarity, apart from any natural language constraints imposed by their respective meanings. A metaphor or any piece of poesis must only be thinkable, not objectively happenable. The first line of Blake's poem "The Tiger" (10, p. 248), "Tiger! Tiger! burning bright," presents only a metaphorical image--it would be absurd to envision a real tiger on fire as the topic of this poem. Likewise, a tiger and a fire have nothing in common of empirical significance. Nonetheless the image of the tiger burning bright is thinkable, is imaginable; and since it clearly has no reference outside the poem, it is poetic. In general then, we can say that poesis is characterized more by its adherence to mental possibilities than to objective facts as discourse is: the words, sounds, meanings, syntax take on a purely mental existence in the creative and interpretative processes. To the extent then that the poet/reader is able to divorce words from the physical world, they will reflect more closely the purely mental subjective structure of feeling; for they will be in large measure an independent product of mind. (This criterion of separation of word from world is not the only one: the artist must face the same competence-performance problems in non-discursive symbolism as the native speaker faces in the use of ordinary language.) As Langer says:

> [t]o be imaginatively coherent, the "world" of a poem must be made out of events that are in the imaginative mode--the mode of naive experience, in which action and feeling, sensory value and moral value, causal connection and symbolic connection, are still undivorced. (2, p. 217)

If discursive thought is the internalization of language (1, p. 18), then we could perhaps speculate that art, non-discursive products of imaginative thought, is the externalization of feelings-about-things or iconic images. For as Barfield states in a passage cited by Langer as an almost perfect paraphrase of Ernst Cassirer:

> [c]onnexions between discriminate phenomena, connexions which are now apprehended as metaphor, were once perceived [by primitive man] as immediate realities. As such the poet strives, by his own efforts, to see them, and make others see them, again. (2, p. 239)

Lest we misunderstand the role of "objects-in-the-world" in the art object, Langer clarifies by saying:

> . . . events and objects are prone to appear in a Gestalt congruent with the emotion they elicited. So reality quite normally furnishes the images; but *they are no longer anything in reality, they are forms to be used by an excited imagination*. (2, p. 253, italics added)

As such, it is the treatment they are given, the purpose to which they are put, and the final product they manifest that makes them essentially different from their discursively conceived counterparts. A fundamental distinction between poetry and discourse then is that between showing and telling: the poem shows a symbolized piece of felt-life, it gives the appearance of felt-life. Since it is made from discursive material--minimally words and sometimes even sentences which have in other contexts reference--it is not the language which is *necessarily* poetic but the use to which it is put. Thus lines which are of themselves highly abstract or philosophical, or which may have reference to commonplace, even banal, daily experience are potentially as appropriate material for artistic use as lines which refer to mythical subjects or as lines which do not refer at all since they contain anomalies such as metaphor.

For example, Eliot's lines from "Burnt Norton" (11, p. 117) are often both abstract and philosophical: "Time present and time past/ Are both perhaps present in time future,/ And time future contained in time past," or "What might have been is an abstraction/ Remaining a perpetual possibility/ Only in a world of speculation." Yet these lines contribute through their use to the presentation of a specific appearance of felt-life: the immediate apprehension of a timeless reality felt in time and remembered in time. Likewise the lines, "I have eaten/ the plums/ that were in/ the icebox . . ." (12, p. 41), from "This Is Just To Say" by William Carlos Williams are in themselves commonplace and uninteresting; yet they contribute to a specific presentation: the feeling perhaps of mild guilt-and-pleasure. Whether there were ever any real plums is irrelevant to the apparent feeling inherent in the poem in which "plums" appears as a poetic element.

On the other hand the lines, "anyone lived in a pretty how town" (13, p. 240) and "Tiger! Tiger! burning bright/ In the forests of the night" (10, p. 248), seem strikingly poetic because they are literally uninterpretable--i.e., semantically deviant--even though as in the case of cummings' line we may not be able to immediately comprehend any import. In any case it is the particular pattern of words, structured to poetic ends, which creates the import. Each word is chosen not for its associated meaning alone but for its potential contribution to the evolving structure of feeling. As such, its sound, length, rhythm, mouth-feeling, association, and syntax may all be equally significant as criteria for selection.

The fact that rules of ordinary, discursive, language do not govern its poetic use is perhaps most impressively demonstrated when linguistic deviation occurs as we have already noted. This deviation ranges all the way from a simple constituent reordering and novel punctuation, to morpheme reordering as in some of cummings' poetry, to the many forms of semantic anomaly found throughout literature. As Langer observes:

> [the laws of imagination] extend over all the arts, but literature is the field where their differences from discursive logic become most sharply apparent, because the artist who uses them is using linguistic forms, and thereby the laws of discourse, at the same

> time, on another semantic level. (2, p. 234, italics added)

As we have previously indicated, it is the struggle between the input to creative imagination, the pre-formed feeling, and the medium of language that often results in new linguistic forms which are deviant.

One of the principles which undoubtedly describes much linguistic deviation is Freud's "principle of condensation" (2, p. 243). As Langer indicates, condensation is

> essentially a fusion of forms themselves by intersection, contraction, elision, suppression, and many other devices. The effect is usually to intensify the created image, heighten the "emotional quality"; often to make one aware of the complexities of feeling . . . ." (2, p. 244)

A second principle is, again from Freud, "over-determination." In this case the effect is that one form, a word or a construction, "may have more than one import" (2, p. 242), i.e., may be unresolvably ambiguous. Where such ambiguity results in either deviant or non-deviant units, alternate meanings (particularly when they are in semantic conflict) create an ambivalence which

> springs from the fact that emotional opposites--joy and grief, desire and fear, and so forth--are often very similar in their dynamic structure, and reminiscent of each other. Small shifts of expression can bring them together, and show their intimate relations to each other, whereas literal description can only emphasize their separateness. (2, p. 242)

The intimate felt-identity of earth, plant, animal, and human consciousness which is presented in the opening lines of "The Wasteland" illustrates this point:

(11, p. 37)

More specifically, the line, "The miles and hours upon you feed," from Stephen Spender's "You Were Born, Must Die; Were Loved, Must Love" (14, p. 478) prevents the reader from attributing propositional status to it, holds before him the import of the anomaly, by mixing the idea of space and time and their effect on human life with the animalistic image of human life devoured; the total import is then one of the imagined- or felt-experience of human-life-in-time-space.

If we extend to its logical limit the idea that any kind of material (in the case of literature, any kind of linguistic material) can be used artistically, we must consider apparently unartistic manifestations such as the essay, philosophy, history, biography, and "all kinds of exposition" (2, p. 301). How is it possible, if indeed it is, that such writing which is above all constrained by objective facts, by rules of scientific logic, and by the rules of "social" acceptability could fulfill the creative requirements of art? The answer must reside in whether such works are written with an artistic purpose and whether they meet the characteristic of felt-life presentation. If they are written as imaginative renditions of the organic structure of feeling, then and only then can they be considered as art and judged by artistic standards. Langer says that such writing

> is in essence not poetry (all poetry is fictive; "non-fiction" is "non-poetic"). Yet, whenever it is well done, it meets a standard which is essentially literary, i.e. an artistic standard. (2, p. 301)

She goes on to explain this claim by stating that a writer of logical discourse who has a literary imagination perceives the act of writing discourse as an aspect of vital experience. Thus the act of discoursing itself becomes the motif for artistic treatment and the experience of logical reasoning in exposition dictates a presentation of vital import. If successful, the work fulfills both the function of discourse--reference and the concatenation of logical propositions--and the function of art--presentation of a structure of virtual feeling as it exists in correlation to the discursive process. Langer observes that

> [g]ood discourse seeks . . . to be transparent, not as a symbol of feeling, but as a vehicle of sense; the artistic form is strictly bound to the literal function. That is why such writing is not poetry; the writer is not free to create whatever semblance of intellectual or imaginative experience his motif, a discursive thought, puts into the reach of his imagination, but is committed to the envisagement of one living experience--the intellectual experience of following this discourse. The feeling presented has to be actually appropriate to the matter represented, the "model"; and the excellence of an expositional style depends on two factors instead of

> one--the unity and vividness of the feeling presented (which is the only criterion for "free" art), and the sustained relation of this feeling to the actual progress of the discourse presented. (2, p. 303)

We have repeatedly used words like "form," structure," "feeling," "emotion," and "abstraction" without carefully and explicitly attending to their definitions. In so doing, the burden has rested on their consistent use independently, in such phrases as "the structure of feeling," and on a basic intuition of their meanings. What precisely are their respective meanings?

Langer indicates that when we refer to the form of something, we most usually mean its physical shape. Yet we also can refer to the form of such non-physical things as music and mean more than the shape of lines it produces on the graph of a sound-recording device. We can refer with equal ease to the form of an event, a painting, a poem, or an attractive woman. What all of these uses seem to have in common is that they involve a perception of a relationship among parts. An event has its own peculiar constituents, perhaps an agent, an action, and a result. Through our perception of the event and its parts we say that it has a form, that the parts exist in an identifiable pattern of relationships. Most generally, we might say that the form of every event relates a beginning and an end. Similarly the painting, poem or woman has identifiable parts or content and those parts are perceived not as randomly existing but as ordered, arranged, in a form or structure.

The fact that we can hold a form in mind independent of any content which may exhibit it is demonstrated when we recognize two different objects, events, and so forth as alike. We perceive that two different bridges or women or events are alike because they manifest the same form. Obviously their parts are not the same; yet we can say that those disparate parts show the same arrangement or structure. Perceived form does however exist on various levels. Two objects may be said to exhibit the same form in a particular way; that is, their total forms may differ while their partial or sub-forms are identical. For example, our two bridges may have the same form in their superstructures but differ in their understructures. Furthermore, one of these bridges may have the same form in its understructure as a third bridge. Thus, works of art, which have unique structures when they are taken as a whole, may be said to have similar forms at some lesser level.

The process of perceiving a form is that of abstraction (2, p. 378). When we intellectually grasp a form from its content, it is an instance of abstracted form and as such, creates a concept. In science or discursive thought we can separate the pure form from its various contents in the physical world and manipulate that form in various ways. One example of this activity occurs in mathematics; another in logic. When we apply our idea of a form to some new content (i.e., recognize two separate things as similar) it is called interpretation. In art the original content from which the form is abstracted is the world of feeling. Since its content does not lend itself to direct treatment, to a direct exhibition of that form through its content, the artist must use some other content. In the case of literature the content or material is words, with their accompanying meanings, sounds, and so forth. The form cannot be presented unembodied because it is organic, lifelike, and our human symbols for capturing unembodied form are all discursive. Thus, the poem's form cannot be abstracted from the work, cannot be dealt with apart from the content even though the content is neither a content of feeling nor is it the poem. By saying that the content in its particular organization, with its accompanying relations, is so totally bound up with those relations and that form that the two cannot be considered separately as being the poem, we are simply providing an expansion of the meaning of non-discursive. The content of the poem, its various elements, is not any longer the poem's content if it is contemplated outside of the poem, either by itself or in some other context: the import of a single element only exists as a part of the poem where its import is a function of its relationship to the whole. As such, the art analyst or critic cannot say what the content and form of the poem are, he can only say what the content and form in the poem are. As we shall see, his business is to "ask how the primary illusion is established and sustained, what poetic elements are created, and how they are deployed" (2, p. 228). Thereby he may increase appreciation for the craft and facilitate artistic intuition (comprehension of import), which is unteachable directly.

As we have indirectly indicated, the term "feeling" is very general. It refers to the commonly understood emotions such as love, hate, joy, despair, and so forth. But it also refers more generally to the kinds of awarenesses a human being has of his inner condition during the course of his life. Thus, feeling accompanies any human activity, be it dreaming or discoursing. We all know the feeling of pain or pleasure, but only when we introspect are we aware of the feeling which accompanies the working out of an idea or its initial flashes in our minds. Under particularly sensitive and attentive conditions we can recognize that feeling accompanies any and every moment of life. Whether we are always aware of their existence or not does not indicate their absence. It is in this sense that Langer uses the term feeling (and sometimes, perhaps a little misleadingly, emotion):

> The word "feeling" must be taken . . . in its broadest sense, meaning everything that can be felt, from physical sensation, pain and comfort, excitement and repose, to the most complex emotions, intellectual tensions, or the steady feeling-tones of a conscious human life. (4, p. 15)

Intuition is direct, immediate perception of a relational whole. It either happens or it does not; it cannot be taught. We intuit relational wholes that are both discursive and non-discursive; this capacity functions identically in both domains. As Langer says, when we comprehend the total meaning of a sentence we do so by an act of intuition (2, p. 379). We may know the meanings of every word in the sentence and not know what the sentence means. This is a failure of intuition, a failure to immediately perceive the relationships in which the content--the words--stands. In a syllogism we may know the meanings of the major and minor premises and of the conclusion, and yet if we cannot perceive the "rightness" of the conclusion from the premises, then our intuition has failed us. Likewise, we may perceive a set of intersecting lines and be able to identify them; but only through intuition, intuition of a Gestalt, do we "see" a cube or square. "All discourse aims at building up, cumulatively, more and more logical intuitions" (2, p. 379).

The comprehension of a poem occurs through the same cognitive act. The difference is that with the scientific example it is possible to "paraphrase" the object to guide and facilitate intuition. We can say, "Don't you see? It's a square," or "The sentence means such-and-such." With a work of art the facilitation of insight or intuition is far more indirect; it must be since we have to lapse into the discursive mode, into what is called literary criticism, in order to bring the reader to understand the meanings of the words, to see the elements and how they are deployed. Finally we can say, "Return to the poem," with the hope that the reader's intuition may prevail. Obviously a certain familiarity with artistic symbols, with what artists create, will enhance non-discursive intuition; and when we later deal with the problem of literary art education this matter will be explored further.

Earlier we said that a work of art is an imaginative conception of feeling and that like all symbols it provides a means whereby an idea can be held. We also said that symbols are the only means human beings have for coping with the world. How is it then that a poem can provide a way of coping with the world of feeling? What are the precise connections between the poet and the poem and between the reader and the poem? The answers to each of these questions are crucial since upon them depends both the justification for and the nature of a literary art curriculum.

Every work of art must bear some direct relationship to the artist, but the nature of that relationship is often misunderstood. For example, it is believed that art is a product of emotional catharsis, a direct outpouring of the feelings being experienced by the artist at the moment of creation. There are at least two objections to this hypothesis. First, it is difficult to believe that a piece of literature whose motif includes a great love between two characters could contain that emotion as experienced by the writer at the time of writing. The heights of passion are not conducive to careful writing. Other examples of this kind are readily available. The second objection arises from the nature of the art object itself, from the fact that it is a symbol. As already noted, a symbol is not the thing symbolized but rather an idea of the thing. Therefore the art work as symbol must be at least the mediation between any hypothetical emotion and the writer.

It is all too easy to take this last point beyond a reasonable conclusion and thereby divorce entirely the artist from the work. But Langer points out that

> to say that he does not render his own emotions would be simply silly. All knowledge goes back to experience; we cannot know anything that bears no relation to our experience. Only that relation may be more complex than a theory of direct personal expression assumes. (2, p. 390)

Initially the emotion felt and the drive to symbolically explore possibilities of its form brings on the process of creation. Langer says it well in the following passage:

> Every good work of art has, I think, something that may be said to come from the world, and that bespeaks the artist's own feeling about life. This accords with the intellectual and, indeed, the biological importance of art: we are driven to the symbolization and articulation of feeling when we must understand it to keep ourselves oriented in society and nature. So the first emotional phenomena a person wants to formulate are his own disconcerted passions. It is natural to look for expressive materials among the events or objects that begot those passions, that is, to use the images associated with them, and under the stress of real emotion, events and objects perceived are prone to appear in a Gestalt congruent with the emotion they elicited . . . . And now begins the work of composition, the

> struggle for complete expressiveness, for that understanding of the form which finally makes sense out of the emotional chaos. (2, p. 253)

Still later the scope of the artist widens:

> It is usually with the advance of conceptual competence that an artist becomes able to find material outside his own situation, because he becomes more and more apt to see all things, possibilities as well as actualities, half-wrought already into expressive forms in terms of his own art. A poet thinks poetry a good part of the time, and can view experience--not only his own--emotionally, because he understands emotion. (2, p. 254)

Thus she says further:

> . . . [one] is an artist not so much because of his own feelings, as by virtue of his intuitive recognition of forms symbolic of feeling, and his tendency to project emotive knowledge into such objective forms. (2, p. 390)

We know from having engaged in the kind of creative speech to which Paul Goodman refers that all of our pre-verbal thoughts are not formed, that when we do utter a formed thought which we carefully formed and tested silently, we are forming an idea in language. We could easily make an analogy between creative speech and the writing of poetry if we are careful not to overextend it. In the former case what exists prior to speech may be termed pre-verbal thought, an amorphous if specific predisposition to symbolize. Here the process of symbolizing involves a search for appropriate form and an evaluation of the new formed content for adequacy. Similarly, the artist begins not with a fully thought out, symbolized piece of feeling, but with what we may call pre-artistic thought, whose form he proceeds to discover:

> In creating an emotive symbol, or work of art, the creator does articulate a vital import which he could not imagine apart from its expression. But the act of conception which sets his work going, whether it comes suddenly like an inspiration or only after much joyless and labored fuddling, is the envisagement of the "commanding form," the fundamental feeling to be explored and expressed. This is "the work of art in the artist's head." (2, p. 389, italics added)

Thus while it is true that the artist by means of his art learns about the form of his own feelings he also learns about the forms of feelings which he has never known directly. Just as the manipulation of discursive language can give a writer/speaker ideas which he has never before encountered so the symbolic formulation of the artist's emotions can give him new ideas of feeling. Obviously this process constitutes a kind of cognitive growth which permeates every aspect of the artist's mental life, including his emotional life; for as Langer points out:

> [i]n handling his own creation, composing a symbol of human emotion, he learns from the perceptible reality before him possibilities of subjective experience that he has not known in his personal life. His own mental scope and the growth and expansion of his personality are, therefore, deeply involved with his art. (2, p. 390)

The effect of the act of symbolization on the artist is not lost on the non-artist audience. For since the artist is the first perceiver of his own work, he employs the same act of intuition that any other audience will employ. Any beholder then enjoys the same conceptual growth as the artist: he gains through the art work a new way of conceiving emotion, and that new way offers him the same opportunity to experience the form of feeling he has never known directly and to relate that new form to his own unformed emotive experience and to his other formed emotive experiences. The beholder can actually explore his own experience through the art symbol: he can "interpret" the form onto his own content. Again Langer captures this effect in the following:

> A work of art . . . formulate[s] our conceptions of feeling and our conceptions of visual, factual, and audible reality together. It gives us forms of imagination and forms of feeling, inseparably; that is to say, it clarifies and organizes intuition itself. (2, p. 397)

Also,

> . . . any work that confronts us as a major aesthetic experience . . . makes a revelation of our inner life. But it does more than just that--it shapes our imagination of external reality according to the rhythmic forms of life and sentience, and so impregnates the world with aesthetic value . . . . Life as we see, act, and feel it is as much a product of the art we have known as of the language (or languages) which shaped our thought in infancy. (2, p. 399)

Clearly we can speculate that there must be a great impact from the forms of feeling we have known through art on our emotional capabilities as well as on our emotive understanding. To return to Langer's statements and examples, which are difficult to improve on:

> [a]s painting affects visual imagination, poetry (in the broad sense, including verse, prose, fiction, and drama) affects one's conception of events. There is a passage in D. H. Lawrence's *Sons and Lovers* that presents with great authenticity a person's need of *composing* dreadful events in order to make them definite, emotionally significant, before coping with them practically and morally. The situation which is the context of this passage has been developed gradually: Morel, a miner who is becoming a confirmed drunkard, has grown more and more abusive and violent toward his hard-driven and pregnant wife, until, at the moment in question, he has just laid rough hands on her, for the first time, and thrown her out of the house. The narrative reads: "For a while she could not control her consciousness; mechanically she went over the last scene, then over it again, certain phrases, certain moments coming each time like a brand red-hot down on her soul; and each time she enacted again the past hour, each time the brand came down at the same points, till the mark was burnt in, and the pain burnt out, and at last she came to herself."
>
> Life is incoherent unless we give it form . . . . [W]e "put it into words," tell it to ourselves, compose it in terms of "scenes" . . . . The basis of this imaginative work is the poetic art we have known, from the earliest nursery rhymes to the most profound, or sophisticated, or breath-taking drama and fiction. (2, p. 400)

How crucial it is therefore that the child's life of feeling be educated through art so that he might symbolically explore his own experience, his own emotional life, as well as the forms given to him by artists. How else can he defend against inner chaos and outer chaos when unfamiliar events and feelings make him uneasy about himself and others, about the unknown? The case for experiencing art is clearly strong, as strong as the case for experiencing any kind of human symbols. Such activities as creating, perceiving, and interpreting provide experiences that must hold a position of importance equal to the complementary experiences with discursive symbols as an instance of the symbolic exploration of experience.

What now must be demonstrated is how such aesthetic literary education might proceed; how, for example, children might be facilitated by discursive means in their exploration of works of poesis. The danger is of course that this instrument of direct perception may become the primary object of study. In spite of educational claims to the contrary, direct aesthetic perception and understanding is often taken to be the child's discourse about some given work; or in those rare situations where the two kinds of understanding are distinguished, talk about supplants experience of art.

The following pages attempt to illustrate, not prescribe, the kind of discursive structure-making or exploration which might fruitfully accompany a child's experience of poems. However, the sequence and structures put forth would not be those evolved by any two teachers or by any teacher with any two classes. Given a fundamental understanding of the nature of symbolic activity, each teacher must evolve with each group of children a sequence of structures which is uniquely theirs. No fully effective sequence of activities or set of structures can be planned without the direct day-to-day interaction between a particular child or group of children in a particular space-time setting. This point can never be too emphatically stated.

While we will be dealing exclusively with poetry from the perceiver's and interpreter's point of view, it should be made clear that the act of creation is completely within the grasp of all children. The term "artist" as used in the preceding discussion was not intended to exclude the child-as-artist even though it generally referred to the "professional." Whether a given child is successful or not in any artistic endeavors is relatively unimportant if his motivation and purpose is non-discursive. He may have to begin with obvious and somewhat gross emotions to work with; he may never produce a creditable piece of writing; but the understanding he derives of the mental process of creation and the craft required to fully realize an idea will be indispensible. (See 15, 16 for further information.)

# ILLUSTRATIVE INVESTIGATIONS OF FIVE POEMS FOR CLASSROOM STUDY

We now turn to an investigation of five poems. The form of the investigations of the first three poems simulates the process of inquiry without resorting to hypothetical dialogue. Each line of each poem will be analyzed much as a reader might probe into the meanings of words, their forms, syntax, and sounds as he reads through a poem. The questions raised in the discussion and the accompanying analysis evolve from a single perspective: what are the poetic elements and how are they deployed? This perspective accounts for a variety of the specific points made throughout the critical investigations. For example, what does this word mean and how does its meaning effect the image presented in the poem? Is visual appearance a significant element within the poem and how is it achieved? These investigations are an effort to show that one must confront problems which are essentially linguistic in order to investigate the nature of poems; they are not an effort to illustrate specific linguistic principles with particular poems.* This focus is important. Rather than applying the knowledge of a particular grammatical system to literature, these investigations illustrate what children might do in a program designed to give them a wide acquaintance with and understanding of literature.

Let us begin with the following haiku and see what language problems it presents. We will suppose that some child has found it interesting and brought it into class.

--Shiki (18, p. 173)**

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*For an example of this perspective, see Chapter IV of "An Investigation of the Semantics of English Sentences as a Proposed Basis for Language Curriculum Materials" (17).

**We have chosen to omit the title given this haiku by the translator because in the original it was untitled.

The meanings of the words and of the individual lines seem to present no problems for the reader. The syntax is straightforward and the poem would appear to be easily interpretable. However, we cannot immediately say what the relationships are between each of the three lines since no word, no signal of any kind is present to tell us. We have only the content of each line, the line order or arrangement, and the punctuation to guide us. We will assume initially that there is some implicit connection between the lines, that they are not randomly tossed together like three stones in a creek bed. What then are the connections and how can we determine what they are?

By thinking about the respective meanings of the lines, we can hypothesize possible relationships based on our patterns of thought and language. Then we can test each of these hypothetical connections against the evidence provided by the poem. Some child might suggest that the connections are simply conjunctive. This hypothesis can be recorded in the following way:

> The mists come (and)
>     the mountains fade and vanish (and)
>         the tower stands alone.

A second child might say that the connections are temporal, which we can indicate by "and then":

> The mists come (and then)
>     the mountains fade and vanish (and then)
>         the tower stands alone.

Another child might say that the mists coming causes the mountains to fade and vanish, and further, that the tower stands alone because the mists make the mountains disappear:

> The mists come (causing)
>     the mountains fade and vanish (causing)
>         the tower stands alone.

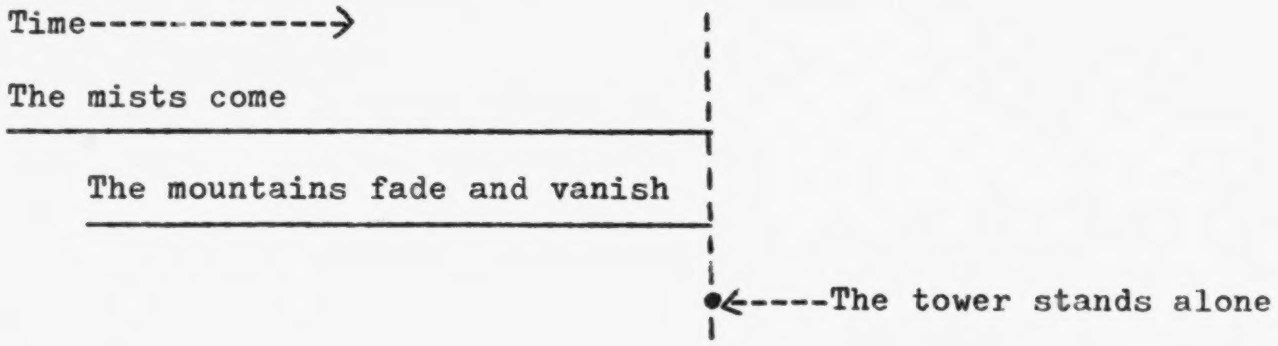
If we suppose that these are the three main hypotheses which children put forth, we can examine them for adequacy. Notice, as some children will, that we have kept the form of the poem when writing each interpretation instead of writing it out as one straight-line sentence. Why? Someone might say that we have already done damage to the poem anyway so why retain its original form? Someone else might say that there is something unusual about the poem's form and that preserving it insofar as possible will serve to remind us that it needs exploring. Maybe the interlinear connections will reveal something about the form, or the form something about the connections.

What does the first hypothesis indicate about the poetic events of the three lines? If "and" is an appropriate linking, what must be true of the events of the three lines? (Some may wish to try to answer these questions directly while others may wish to consider the nature of "and" by dealing with its meaning in other contexts before turning to the poem. The first approach may require a more sophisticated group of students, though again it may not.)

Where do we use "and" in speaking/writing? We use it in situations like the following: "What's in the dish? There's an apple, an orange, and a pear"; or "There's an apple, a blond hair, and some dust." In the first case the "and" links the members of a common category, namely fruit. But what is common to the things named in the second response? They are all "what's-in-the-dish." This is of course true of the first response as well. Is this function of "and"--linking elements of a category--operative in the following example as well? "John went to the store and bought a sweater." What has going to the store in common with buying a sweater? They are both "things-John-did." We can now try to determine whether this meaning of "and" is appropriate in the context of the poem.

The question we must ask is "What, if anything, do the events of these three lines have in common? Do they belong to the same category?" (Someone may observe that the "and" of line two, the one in the original poem, links two elements which belong to the category "what-happens-to-the-mountains.") Each is a part of a scene or event. There is one image presented in the poem: that of a changing scene containing mists, mountains, and a tower. Then it appears appropriate to view the poem as one event which contains three events; the hypothesized "and" links each of these three within the common category of the poetic event. Rather than stop at this point, we should continue with an examination of the other two hypotheses in order to make sure that we have not erred in accepting the first.

Does it seem poetically accurate to imagine the event of line one happening before that of line two and so forth? Someone may say that this is an appropriate temporal order and that the order of the lines supports this interpretation: line one precedes line two and the mists come in time before the mountains fade and vanish, and both of these events happen before the tower stands alone. But the temporal connection seems more complex than the simple notion of time one, two and three. This complexity is indicated by the progression in line two: "fade and vanish." The mountains become progressively less visible until they can no longer be seen. This change appears to be connected with the coming of the mists, that is, as the mists come more and more, the mountains fade more and more. Furthermore, it is not quite precise to say that the tower stands alone after the mountains have become invisible. Thus, there is an overlapping of these events in time. The mists are perceptible shortly before the mountains begin to fade, they continue to be perceived as the mountains progressively fade, and the tower is perceived before they have vanished, but not alone until the moment of invisibility. Schematically, we could represent the temporal existence of these events as follows:



This diagram represents the poetic fact that the mists begin to come shortly before the mountains begin to fade and continue to come until the point in time at which the mountains vanish. It is at this last point that the tower stands alone, the event represented above with the large dot.

We might ask now whether the reading of these lines with the "and" connective conflicts in any way with the "and then" reading. Is there any obvious conflict between temporal linking and linking of elements within a category? The linking of category elements seems to be neutral with respect to time as our earlier sentences illustrate. ("What's in the dish? There's an apple, an orange, and a pear"; "John went to the store and bought a sweater.") The fruit in the dish has no temporal significance and John's going to the store and buying a sweater entails, but does not designate, a temporal sequence. Sentences such as "John went to the store and then bought a sweater," which do designate a temporal connection between events, may have a special type of underlying category: time sequence. If this is true the "and" link is a general category signal and the "and then" link is a special subset of this former type. Whether this observation is accurate or not, the relevant point to be made about the poem is that "and" is semantically unopposed to "and then," even if it is a distinct connective.

The third hypothesis is that the events of the three lines are linked causally. The first part of this interpretation is that the coming of the mists causes the mountains to fade and vanish. This seems to be a possible interpretation. But what is the cause of the tower's standing alone? Does the mists' coming cause the tower to stand alone? Does the mountains' vanishing cause the tower to stand alone? Could the cause of the latter be both of these former events? What form can we use to see these alternatives more clearly? Perhaps the following paraphrases will do:

(1) The mists' coming causes the mountains to fade and vanish and the mountains' fading and vanishing causes the tower to stand alone.

(2) The mists' coming causes the mountains to fade and vanish, all of which causes the tower to stand alone.

(3) The mists' coming causes the mountains to fade and vanish and also causes the tower to stand alone.

The last paraphrase seems unlikely since the events of lines two and three are presented as independent of each other, which does not correspond to our understanding of the poem. The choice between the first and second paraphrase is not so easy. If both seem plausible, we may not be able to resolve the ambiguity.

Either of these two causal interpretations appears to be in harmony with the temporal or elements-within-category connections formerly discussed. What then can we conclude about the relationships within this haiku? What are the consequences of not having chosen only one interpretation of the implicit connection between the lines? One conclusion is that because there is no explicit signal of the underlying relationship, the result is multiple ambiguity. This ambiguity does not detract from the poem since each meaning, each semantic connection, is likely in the poetic context; each enhances the poetic image. By substituting semicolons for more specific semantic-syntactic signals, the poet has been able to create the ambiguity--each line is both self-contained and yet connected to the next, except the last one, which terminates the poetic events with the image of the tower standing alone.

(We have discovered from this poem (1) that ambiguity of semantic relationships may be created by the absence of specific semantic signals, (2) that ambiguity may enhance the poetic image, (3) that hypotheses about a poem are often testable, and (4) that the order of poetic elements may contribute to the total image. In beginning to develop these insights we are beginning to create concepts which ought to make future analysis and comprehension more accessible. The question of why the poet does not "say" what he means should be somewhat easier to answer now: had the poet supplied an "and" or "and then" or "cause," he would have ruled out, by that choice, any other meaning and thereby lost poetic depth. He said what he meant--he meant all the meanings and the poem was the only way to "say" them. The conclusions about this poem are far from exhaustive: we could have chosen to deal with the role of sounds in the poem, for example. We could have indicated that the glide in "fade" (/feyd/) and the length of "vanish" (/væ niš/) reinforce the duration of the change to invisibility; and that the stops in the last line create with the meaning of the words an image of the protruding tower, hard against the background of the soft mists. We could have asked what effect both "fade" and "vanish" create. Why not just "vanish"? However, trying to exhaust a poem usually exhausts the inquirer instead, and we leave further exploration of this haiku to the reader.)

Let us suppose that as a result of investigating some poem a child was prompted to bring to class one of his own poetic efforts, one which might look like the following poem done by a nine-year-old:

--Michael Goodson (19, p. 90)

What observations would we wish to make about this poem? What problems of interpretation need investigation? We might begin by asking: what is the poem's topic? Clearly it is the crocodile of the last line. Could the reader determine that the poem is about a crocodile if the last line were not present? How does the reader know intuitively that the words "A crocodile" are what the poem is about when there is no explicit link between the last line and the rest of the poem? An examination of the semantic-syntactic structures of the poem may prove revealing.

The first two lines, "Silent logs floating/ Statue still," are not a complete sentence. What is missing? More regular in form than the original lines is the following: "Silent logs are floating statue still." If this is an accurate paraphrase of the original, we might conclude that "are" was omitted because it was unnecessary to the meaning. Is there anything odd about the meaning of this paraphrase? Strangely, logs are said to be silent when they could hardly be anything but silent. Use of the word "silent" implies the condition that the object said to be silent have at least the potential to be not silent. This oddness may be either a fault of the poem or a meaningful addition to its image, though we have no way of knowing which yet.

What about logs being "statue still"? What does "statue still" mean? It would seem to mean: "as still as a statue." But is there any ambiguity in this meaning? "Still" can mean either "quiet" or "unmoving." The first meaning is the same as silent and is therefore possible in this context. What effect does this interpretation have in light of the presence of the word "silent"? The redundancy seems to reinforce the image of noiselessness. Can we determine whether "unmoving" is possible in the context of the line,"Silent logs floating/ Statue still"? The word "floating" would appear to contradict the "unmoving" interpretation of "still." How can something be in motion in or on the water (the meaning of "float") and yet be unmoving? We do say though, "John is floating motionless in the water," which suggests that our stated meaning of "float" is not quite correct. What is common to the different uses such as "John is floating motionless in the water" and "John is floating down the river"? It would appear that "float" means suspended in or on and does not necessarily indicate any motion; but it may appear in a context where motion is indicated. "Down" suggests motion in this sentence. Thus, both interpretations of "statue still" are appropriate, and the ambiguity at this point enhances the image.

Just as we observed that it was odd to say that logs are silent, we can make a similar observation about their being as still as statues. If we notice this oddness early in the reading, we are alerted to the potential which may be realized later in the poem. In fact, the next line provides the resolution. The dashes at the end of line two prepare the reader for some form of elaboration, which is "Sly vicious animal, a sinister monster." What is the problem with "logs" and "animal"? The difficulty is one of number: more than one versus one. This, then, is a minor grammatical flaw. (It is possible that "logs" present such an image of unity that reference to them as an animal is precise.)

If these floating objects are not really logs but animals, what is the effect of calling them logs? It is to render their appearance into a virtual reality: they look like logs and, thus, are said to be logs. A second effect whose potential is established at this point is that of virtual distance between the perceiver and the floating objects. We must be alert for any change of distance which may occur later in the poem. In light of line three, what is the reinterpreted meaning of the first two lines? It could be: "These sly, vicious animals look like silent logs floating statue still." But the problem of "silent logs" still exists. It is not the logs that are silent, but the animals: the attributes of the animals are grammatically linked to the logs, which the animals appear to be, rather than to the animals themselves.

In addition to questions about the syntactic-semantic aspects of these lines, we may ask: what sounds seem to prevail in lines one through three? There are an unusual number of sibilants, which draws attention to the words in which they appear: "silent," "statue," "still," "sly," "vicious," "sinister," and "monster." What is the effect of linking these words together? How is "silent" related to "sinister" or "monster," for example? Something which is sly or sinister is *covertly* evil and it is precisely this idea of covert evil which is reinforced by "silent" and "still." These characteristics are the outward qualities which conceal the underlying evil and thus are appropriate semantic complements to "vicious" and "sinister." In themselves "silent," "statue" and "still" are as neutral as the logs of the first line; but the progression from "silent logs" to "sly" to "vicious" to "sinister monster" charges the previously neutral words with the connotation of covert evil as the reader is brought closer to the identity of the animal and closer to perceptual recognition: the crocodile is virtually moving toward the reader. In conclusion then, the first three lines use devices such as sound links, images of appearance, progression of word meanings, ambiguity, and arrangement of images in creating an effect which is quite impressive.

Lines four and five present a second image of the animals: "Regiments of scaly armored troops/ Drifting down the river." How does this image fit with the previous one? Since line three has destroyed the benign-log image, the military image at least continues the idea of destructiveness. The reader is presented with the problem of determining the connection, if any, between these lines and the "animal . . . monster" of line three. No overt signal connects them. The word "scaly" suggests a potential connection since "troops" do not usually have this characteristic whereas some animals do. If the reader is influenced by this fact and by the earlier image of animals as logs, he may give the following tentative interpretation to lines four and five: "the animals have scales and the animals look like regiments of troops armored with scales."

Someone might raise the question whether "drifting" is consistent with the prior image of "statue still." We accepted the interpretation of "still" as "unmoving." But now they are said to be moving, i.e., drifting. Is it possible that something be drifting and yet motionless? Yes, for we can interpret the "still" of line two in the following way: "the animals are not moving their bodies, but they are nonetheless drifting down the river."

What does the word "drift" mean or suggest? It usually refers to a slow, lazy action; as such, it is rather benign. This quality again contrasts the appearance of the animals, their superficial behavior, with their "real" character. "Drifting" is also in contrast to the purposeful action suggested by the image of troops.

So far we have not discovered the identity of the animal. What effect does this postponement have? It seems to create a sense of suspense. If this is so, how does the suspense complement the contrast pointed out between the benign appearance and the viciousness of a monster? Someone might say, "You never know when the animal is going to attack. There is suspense there, too." Exactly, and we do not know yet what the animal might attack either. By the end of line five it seems that a great deal of tension has been created from this contrast and this suspense. How then does the next line, line six, fit with the previous lines? What is its effect?

The previous lines have each contributed directly to an image of the animals: their appearance and characteristics. Thus, line six, "Hot, damp, steamy jungles," is unlike the previous ones. It presents an image of a setting: oppressive, but not particularly evil. What is its effect on the suspense? On the one hand, we might feel that it breaks the suspense by turning away from these mysterious and evil beings; yet on the other hand, it adds to the suspense because the reader has been made eager to learn the animals' identity. These effects--released and heightened tension--are perhaps contrastive like the benign/evil image of the previous lines. In any case, the oppressive quality has been created not only by the choice of words but also by the repetition of similar meanings (hot is like steamy and steamy is like damp and all are like jungles).

Line seven returns to the image of the animal, presenting in "A brute of a creature" a sense of its size and strength, but again concealing its identity. Line eight, "Flesh-eater, killer," tells the reader what it attacks and what it does to its victims. One result of these lines is that more and more is revealed about the creature--its identity seems closer; another result is that the virtual distance between the reader and the monster grows smaller and the idea of the monster gains a more threatening quality. Another overlapping in the meanings of words, this time of "flesh-eater" and "killer," adds to this effect: the reinforcement of the dangerous, evil quality of the animal. But do we know whose flesh it eats or whom or what it kills? What effect does this uncertainty have? The presence of such generality--any flesh, any life--also seems to generalize the other qualities: the animal is more evil, more vicious, more monstrous precisely because its prey is undetermined. The device of leaving certain parts unstated, of creating a particular kind of ambiguity, has appeared before, in the haiku by Shiki; however, we would hardly say that the effect of the ambiguity was the same in that poem. (That the effect of some device is determined almost wholly by its unique context is an important idea and should be emphasized.)

In what way does line nine differ from the previous ones? It moves the reader closer to the animal than ever before, closer particularly to that part of the animal which is the source of death: "Icicle teeth, in a huge dark abyss." The abyss is surely the mouth, but to what effect are "icicle" and "abyss" employed? In a more common context icicles are cold, long, and pointed, but not evil or dangerous. Is it then true that this word is an unfortunate choice for the poem? Not really, for the sharpness, the coldness, and the length given by the word's meaning are fitting, for the sinister suspense built up by the previous images so imbues this essentially neutral concept with the idea of evil that it becomes appropriate. It is as if the mind, holding the impressions of the earlier part of the poem, allows the idea of evil to "take over" the word: the context gives it a meaning it does not have elsewhere. The location of the "icicle teeth," their use, and their possessor make all the difference.

We have already indicated that the effect of keeping the identity of the animal concealed is one of suspense and that this effect is obviously an integral part of the poem. Why is this true? It is true because "crocodile" means in the mind of the reader not what it meant before, outside the poem, but what the whole poem defines it as: the whole poem is "A crocodile." The appearance of the word "crocodile" in the final line has, therefore, an effect which it could not have elsewhere.

(In examining this poem we have found that there are a number of similarities as well as differences between it and the Shiki haiku. Both employ the absence of words and phrases which usually serve as syntactic-semantic connectors in sentences. Both employ ambiguity--the haiku syntactic and this poem lexical. Both exhibit sound devices which serve to reinforce images or link ideas. Both deploy images in ways which reinforce those images. Both "say" what they mean and do so as much by the absence of certain linguistic elements as by what is in the poems.)

Both the Skiki haiku and Michael Goodson's crocodile poem have illustrated the ambiguities that result from the lack of explicit semantic-syntactic connectives. This next poem illustrates not only these ambiguities but also those which result from the lack of any guiding punctuation.

--Gustave Keyser (20, p. 23)

What might this lack of punctuation coupled with the lack of explicit connectives lead us to expect? Perhaps there will be greater difficulty of interpretation and more potential ambiguities of underlying elements in this poem than in the earlier two.

What happens if we examine this poem by taking it a line at a time as we did with the haiku and Michael's poem? Line one, "black on white," seems insignificant as it stands. The image is of one color on another. Colors of what? The only meager clue we have is the link of this line with the title of the poem--"Absolutes." We know that the colors black and white are absolutes.

Line two, "crow in snow," provides no explicit link with line one: there is no punctuation or other syntactic-semantic signal connecting these two images. In fact, a quick glance at the entire poem reveals that one major characteristic of this poem is its lack of any guiding punctuation or syntactic-semantic connectives. One result of this characteristic will be increased difficulty of readers' interpretations arising from the greater number of potential ambiguities of underlying elements.

We can begin to explore these potential ambiguities resulting from lack of punctuation and connectives by asking this question about line two: could it be parallel to line one in presenting a contrastive pair of absolutes? "Crow" and "snow" do not seem to fit this pattern. However, one connection we can see between these lines is that between the colors and the objects. We can say that the colors of line one are those of the crow and the snow respectively. How can we describe explicitly the relationship between the two lines? Perhaps "crow in snow" is an example of "black on white." Perhaps the appearance of the crow in the snow is first perceived as an unidentifiable black "thing" on an unidentifiable white "thing." What is the effect of the two lines as they exist, as opposed, for example, to the following: "black crow in(on) white snow"? More specifically, what is the difference in effect between "black crow" as a unit and "black" and "crow" presented separately? It seems to be a matter of emphasis: the former presents an image in which the color and the object are merged and are not, therefore, really separately thinkable, while the latter makes a point of the distinctness of the two.

Line three is a single word, "hunched," whose link(s) to the preceding lines must be discovered. What are the grammatical constituents and what are their semantic connections? The relevant lines are:

crow in snow
hunched
wet lump
on brittle branch

The reader's immediate reaction might be to view "crow" as an NP which is the subject of an unstated copula linking it to the NP, "hunched wet lump." But we must ask whether there are any other acceptable readings of these lines, whether NP-Copula-NP is the only possible underlying grammatical pattern. Different children might suggest the following paraphrases of the meaning of these lines:

(1) The crow which is in the snow is like a hunched wet lump which is on a brittle branch.

(2) The crow which is in the snow is hunched like a wet lump on a brittle branch.

(3) The crow which is in the snow is a hunched wet lump which is on a brittle branch.

(4) The crow which is in the snow is hunched, and is a wet lump on a brittle branch.

(5) The crow is in the snow; the crow is hunched; the crow is a wet lump; the crow is on a brittle branch.

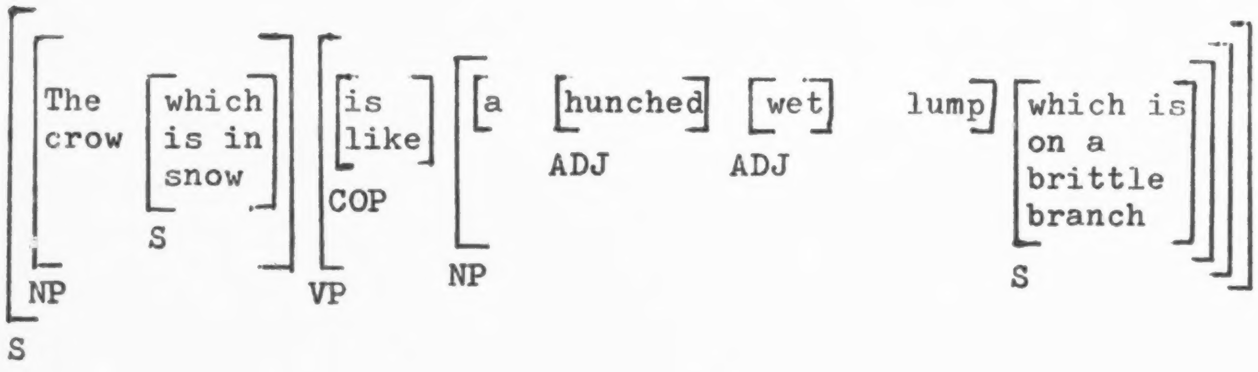
(6) The crow's being in the snow is like a hunched wet lump's being on a brittle branch.

(7) The crow is in the snow; something else is a hunched wet lump; etc.

Each of these interpretations of the lines in question is based upon the assumption of a different underlying grammatical form and upon the assumption of different unspecified elements. The absence of such elements as "is," "a," "the," and "like" indicates a deviation from normal linguistic form and creates the potential for syntactic-semantic ambiguity. Before we explore the relative merits of each of these interpretations, let us examine, in order, the grammatical patterns presumed to underlie each of these paraphrases.

Paraphrase (1) contains a subject Noun Phrase "The crow" restricted by the relative clause "which is in the snow." The subject NP is followed by a Copula of comparison "is like." The Copula links the subject NP to a second NP and its restriction, "hunched wet lump which is on a brittle branch." This second NP contains the Noun "lump" and two Adjectives "hunched" and "wet." We can represent this grammatical pattern in the following two ways, the first of which indicates the pure form of the grammatical constituents and the second the paraphrase represented in immediate constituent analysis.*

NP REL COPULA ("is like") NP REL



Paraphrase (2) differs from (1) in that "hunched" is seen not as a ADJ modifying the N "lump," but as a stative ADJ linked with the Copula "is" to the NP containing "crow." Therefore, the comparative "like" now designates the comparison not between the crow and the lump, but between the crow's state of being hunched and the lump. The same visual reality may lie behind each of these but their focus is quite different.

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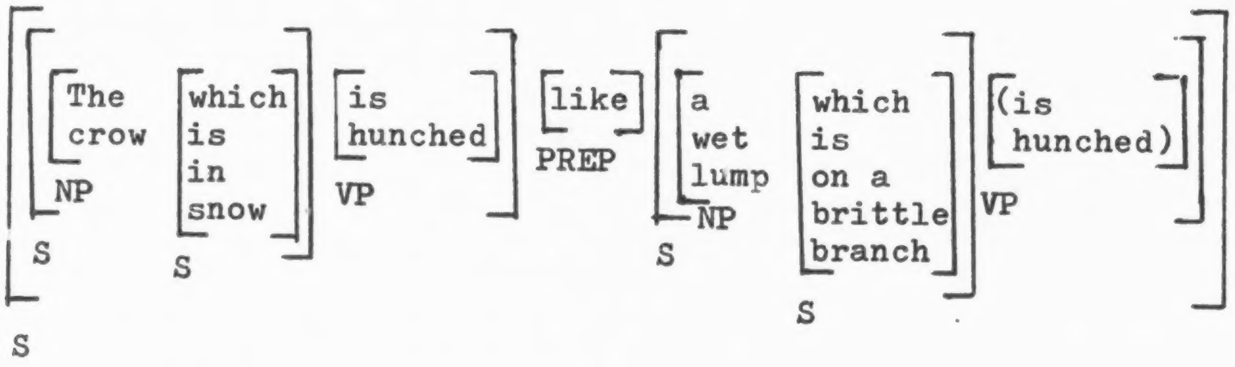
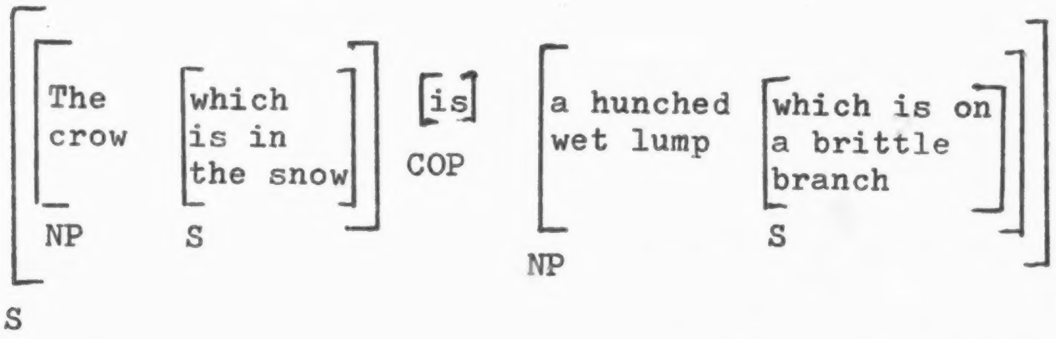
*For simplification some of the constituent labels not crucial to the point of this discussion have been omitted.

NP REL VP PREP NP REL (VP)


The crow
NP
S
which is in snow
S
is hunched
VP
like
PREP
a wet lump
NP
S
which is on a brittle branch
S
(is hunched)
VP
S

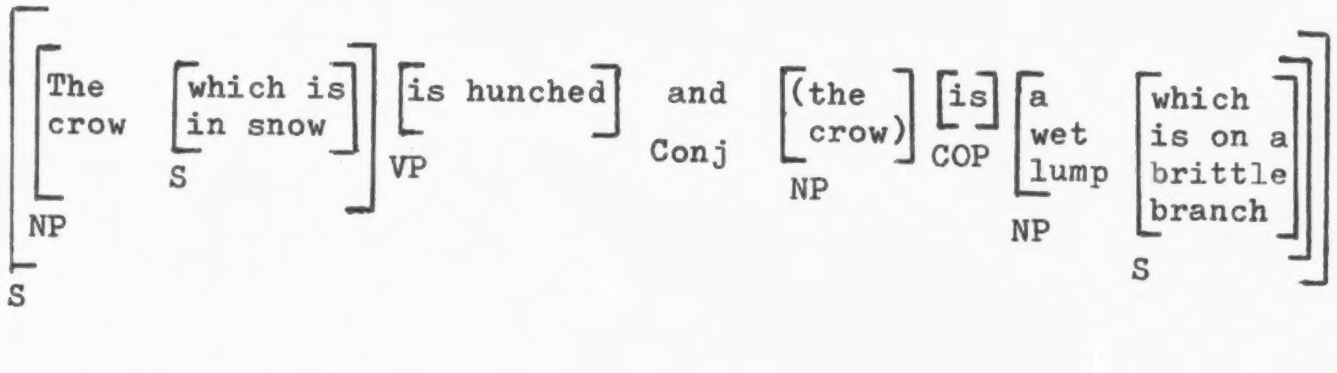
Paraphrase (3) does not posit the similarity between the crow and the lump, as do the first two; rather it contains a case of identity: X is Y.

NP REL COPULA NP REL


The crow
NP
which is in the snow
S
is
COP
a hunched wet lump
NP
which is on a brittle branch
S
S

The fourth paraphrase seems almost identical to the third, the only difference being one perhaps of emphasis: the separation of the two attributes by conjunction may have a slightly different topical effect but no apparent semantic one.

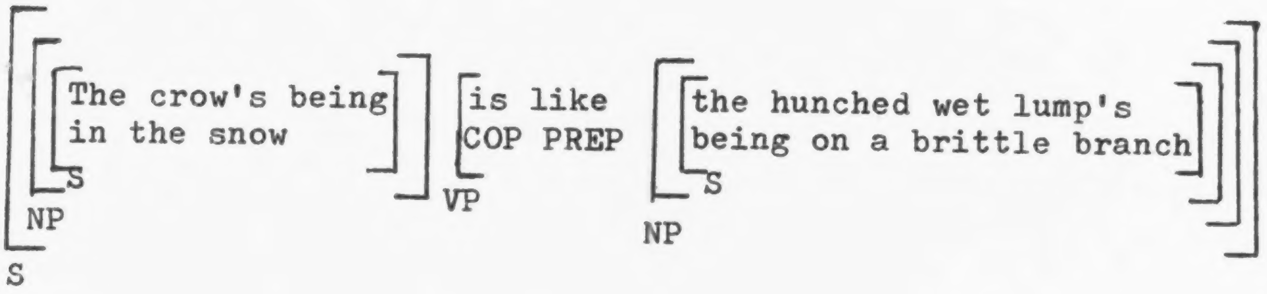
NP REL VP & (NP) COPULA NP REL


The crow
NP
which is in snow
S
is hunched
VP
and
Conj
(the crow)
NP
is
COP
a wet lump
NP
which is on a brittle branch
S
S

It ought to be clear by now that (5) is simply a superficial variant of (3) and (4), in which the relativized sentences are given independent status. There is no reason, therefore, to give it any independent representation.

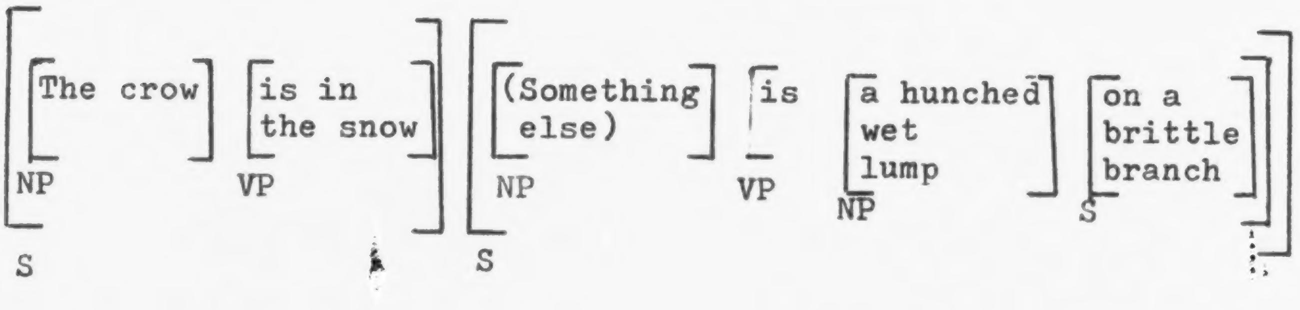
Paraphrase (6) does, however, introduce a new element: instead of comparing the object "crow" to the object "lump," this interpretation compares two events: the crow's being in snow is compared with the hunched wet lump's being on a brittle branch. The major difference between object comparison and event comparison is that the latter invites the perceiver to contemplate every aspect of the two wholes in relation to each other while the former only invites a more limited and directed comparison, e.g., the appearance of hunching.

S PREP S


The crow's being in the snow
S
NP
is like
COP PREP
VP
the hunched wet lump's being on a brittle branch
S
NP
S

Paraphrase (7) is simply a representative of many other such interpretations involving the assumption of an unspecified subject other than "crow." Under this reading "hunched wet lump . . ." is a VP which is not directly connected to line two of the poem. The following representation captures the essential features of this reading.

NP VP. (NP) VP


The crow
NP
is in the snow
VP
S
(Something else)
NP
is
VP
a hunched wet lump
NP
on a brittle branch
S
S

In fact, however, anyone reading this poem is unlikely to give these lines an interpretation based on the assumption of an unspecified subject other than crow. First, such an assumption is not economical--it demands more hypothetical elements than any of the other readings. Second, "crow" is a semantically and syntactically appropriate element for the context, as (1)-(6) demonstrate. We might observe that while this reading is not impossible, it would be made likely only by an extremely powerful set of poetic events as determining context. Later lines may be revealing.

Lines six and seven provide the information we need to resolve this problem. We know that the branch is not "remembering," and since "wet lump" is the most recent nominal which can be the grammatical subject of "remember," it is reasonable to assume that the "wet lump" is "remembering." "Corn" seems a clear indication that the crow is the semantic subject of "remembering" and if so, the wet lump must be the crow. "Wet lump" is then an example of psuedo-pronominalization: it serves a pro-nominal function in referring to the crow in line two. We know this fact just as we know that in a sentence like "John broke the window and the idiot deserves any punishment he may get," "the idiot" refers unmistakably to "John." But unlike this sentence, the poem has to create its meaning through the associative link between crow and corn and the semantic link between crow and remembering--there are no explicit syntactic-semantic signals.

What is the connection between line six and line seven? From our discussion of the haiku, we could hypothesize a simple "and" link or an "and then" link. These different links would then provide the following interpretations of these lines:

(1) remembering warmth and remembering corn; or

(2) remembering warmth and then remembering corn.

The case for the first interpretation is that both warmth and corn constitute positive experiences in the crow's past and, therefore, belong to the same category. On the other hand, evidence for the second interpretation depends upon the parallel between the order of the lines and the time sequence: the second line follows the first in space and may suggest that temporal order of poetic events. Both interpretations, like the first six interpretations of lines two through five, seem equally possible and not in conflict. A reasonable tentative conclusion would be that whatever logic could be brought for or against either would be tenuous and that we ought to accept both readings simultaneously. This is certainly in keeping with our belief in complementary ambiguity and its enriching effect.

Line eight presents further ambiguities. The most obvious connection of "miserable" to the rest of the poem is through the crow. The poetic image of the crow suffering the deprivations of winter in contrast with the rich memories of summer is certainly a presentation of misery. It is unlikely that anyone would suggest that the "corn" of the previous line is "miserable," simply because our knowledge of the world and language does not create such an image in the context of this poem. This interpretation could be captured in this way:

> remembering corn--
> the crow is miserable . . . .

Again the words "the crow is" have been omitted in the original and as a result we are alerted to the potential ambiguity. A slightly more sophisticated person might suggest that it is not exactly the crow that is miserable; rather it is the entire image of suffering that is miserable, miserable as presented to the mind of the reader. An even more sophisticated view is that the remembrance of warmth and corn in contrast with the coldness and lifelessness of the scene is what is miserable. Again we must turn to later lines for additional evidence.

The last three lines, "as life/is/black on white," present interesting problems. The "as" of line nine clearly links "life" with the preceding lines, yet "as" has at least three meanings: (1) since or because, (2) like or in the manner of, and (3) comparable to, "as X as Y." Line ten contains the only copula in the poem: "is." Its presence is significant because it is essential to the interpretation of the final three lines, whereas earlier lines were not only interpretable but also meaningfully ambiguous precisely because the copula was absent. One interpretation of these last few lines of the poem using the first meaning of "as" is "The crow is miserable because life is . . . ." The ellipsis after "is" indicates that nothing follows "is" in line ten in the poem. Line eleven provides one possible completion: "The crow is miserable because life is black on white." But without any punctuation we cannot know whether this is the meaning. Another meaning is that "the crow is miserable because life is miserable." Here a redundant adjective is elided. If this is the interpretation, we must discover what relationship line eleven has to the preceding lines. It could be the same as the first occurrence of this line: a contrast of absolutes, though in this case the suffering of the crow is in contrast to his remembrance of warmth and corn.

The second meaning of "as" provides yet another set of interpretations. The crow is miserable in the way that life is black on white, or in the way that life is miserable. The third meaning of "as" provides a further set. The crow is as miserable as life is miserable, or as life is black on white. These many readings of these lines are based on our knowledge of the syntactic-semantic possibilities of English. It seems intuitively right to read that "the crow is as miserable as life is miserable." This rightness is a result of familiarity with grammatical-semantic patterns which occur in English. In addition, we know what it means to say that the crow is as miserable as life is miserable. But do we know so immediately what some of the other interpretations mean? For example, what does it mean to say that the crow is as miserable as black on white?

In using a comparative we generally consider two objects or actions or qualities which have at least one attribute in common. This attribute becomes the basis for the comparison and the two objects, actions or qualities are said to be equal in this attribute. This general description seems to apply to all comparisons: if we can think of some attribute which two things have in common then those things can be compared. For example, "John" and "the door" may be the objects, and "height" may be the common attribute. Supplying these items for the appropriate comparative form--X is as Y as Z is Y--will result in: "John is as tall as the door is tall." However, the elements within our last interpretation of lines eight through eleven do not obviously fit this form: the crow (X) is as miserable (Y) as life (Z) is black on white (Y?). Are there any other forms of comparison than the one we have just noted?

As a matter of fact, we do find such sentences as, "John is as tall as Jim is fat" and "Mary is as overweight as Sue is underweight." In these, the attribute used to compare the people is not explicitly referred to by "tall," or "fat"; or by "overweight" or "underweight." However, such comparisons do seem appropriate. It would appear that the common attribute is actually an underlying category to which the stated attributes belong: the first might be "dimension" and the second "weight." A paraphrase of the first sentence might then be: "the distance from John's head to his foot is as great (or small) as the distance around Jim's body." The paraphrase for the second, however, must be different because the "direction" of the "measurement" is different. "Over" and "under" when applied to weight entails some norm against which the judgment of "over" or "under" is made. "Overweight" thus means roughly "over the normal weight" and "underweight" means "under the normal weight." Our paraphrase for the second sentence must be then something like: "Mary is as much over the normal weight as Sue is under the normal weight."

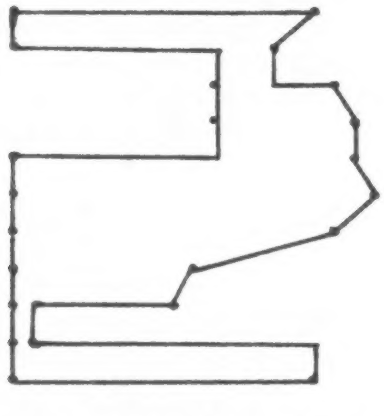
Let us take an even more difficult example: "Harry is as generous as Mark is belligerent." There may well be some question whether this sentence is acceptable. Why? It may be that as it becomes more and more difficult to locate the common underlying category, the more likely we will be to question the acceptability of the sentence. A very unusual category may result in metaphor. Prolonged thought about the commonality of "generosity" and "belligerence" will produce no category except that of "behavior." Yet there is something about this sentence which does permit it to convey meaning. It seems as if the attributes themselves are not as much an essential part of the comparison as the degree to which each is present in Harry and Mark. If Mark is very (somewhat, or a little, or in no way) belligerent then Harry is equally very (somewhat, or a little, or in no way) generous. Thus, the extent or degree of the qualities is the basis of comparison rather than the qualities themselves. Perhaps, then, the fundamental form of comparison does not require an identity of qualities but only an identity of degree: X is Y in the same degree (to the same extent) as Z is P. (Y and P may be identical though they do not have to be.) Now let us return to the poem to determine whether this new understanding of the nature of comparison proves useful in an interpretation of the last four lines.

Our paraphrase again was: "the crow is as miserable as life is black on white." If we take "black on white" as a unit, we can search for a possible underlying category for it and "miserable." We can also see whether the comparison is based on our notion of degree or extent. We have already noted hypothetically that "black on white" is an example of absolutes and likewise that the misery of the crow in winter in contrast with its remembrance of summer warmth and corn is another example of absolutes. Perhaps, then, the underlying category of this comparison is absoluteness. The paraphrase might be: "the absoluteness of the crow's misery is as great as the absoluteness of life's black on white." Or, "the crow is as absolutely miserable as life is absolutely black on white." This latter paraphrase is based more on the model of comparison of degree or extent. This pure comparison of contrasts might be stated even a third way: "the contrast between the crow's misery and his remembrances is marked to the same degree as the contrast between black and white, that is, they are absolutely contrastive."

(It is clear by now that this one interpretation of these last lines of the poem involves very complex semantic relationships and, therefore, demands no little amount of skill on the part of the reader. But if the full richness of the poem is to be appreciated, one must necessarily engage in this type of investigation.)

We are now prepared to turn to the question of the poem's form: the placement and appearance of the lines. We have already noted one of the effects of the placement of the lines: ambiguity. The effect of ambiguity as we have seen is to create diverse meanings, each of which is present as a unit in the poem. For example, the ambiguity of "life is miserable" as opposed to "life is black on white" (ll. 9-11) makes these two almost presentationally equal--the expectation of the more normal comparison, "miserable." A second effect is that of emphasis; without punctuation the burden for emphasis, as well as for forming the various possible ways to read the constituents, rests on how the lines are broken up. Since there are no connectives (except "as"), each line is read tentatively as a separate image. By preventing a rapid reading, the simultaneous lack of punctuation and connectives creates ambiguities and forces the reader to search for them.

In addition to these effects, the placement and appearance of these lines on the printed page creates a visual effect. Since the poem presents an image of a crow huddled on a branch, exemplifying the absoluteness of life's misery, the reader may perceive through that mental image the visual appearance of the poem as an approximation of a crow huddled on a branch, representable in this following way:



In addition, the location of the words, "hunched/wet lump," appear immediately above the line, "on a brittle branch"; as such, the meaning of these lines gives their shape on the printed page the appearance of a wet lump on a branch. Thus, this pure visual shape of the poem may be a reinforcing element of the total poetic image. Apart from the poem the shape is not of a crow, but in the world of the poem it may well have this import. This is a delicate distinction, yet a necessary one. The poem actually gives significance to the outward form of the lines, significance which it would not otherwise have. The same form manifested by another poem, containing a different image, might well have equal but different significance.

Other elements can be considered a matter of form as well as of content. For example, the final line of the poem is the same as the first line. This symmetry has at least two effects. First, the final occurrence of "black on white" has more meaning than the first--it has the meaning given to it by the rest of the poem--and as such stands in marked contrast to the first. Second, by drawing the reader's attention to the first line, the last line creates a recycling of the entire poem. There are probably many other observations which might be made, but these serve to illustrate the point about the meaning of form.

(We began to examine this poem because, as in the Shiki haiku and Michael's crocodile poem, we had to reconstruct possible syntactic-semantic links within the poem. The absence of punctuation and connectives both created ambiguity and also necessitated the search for it. As in the other poems, the ambiguity was lexical and constructional. The various possible meanings were not in conflict and did not require a choice among them; they all contributed in complex ways to the total image. We also found that, as in the haiku, the form and placement of lines were significant because they gave import to the visual appearance of the poem on the page. This import was not possible, however, until the entire poem had been investigated.

We did not examine everything in the poem. For example, we did not investigate the role of intonation in determining possible constituents and possible syntactic-semantic relationships between lines: the way the mind's ear determines possible readings. We did not deal with the effect of alliteration or repetition of sounds. We did not examine the obvious contrast between the preposition "on," in lines one and eleven, and the preposition "in," in line two. The connection was not explored between the observations made about the common categories linked by "and" which came from the haiku and the observation about the common categories of the comparative construction, though one might wish to do so. Also, one might wish to expand our comments on the lack of determiners, which suggests that "crow" is not "the crow"--some specific one--but perhaps "a crow" or "any crow." More to the point, the identity of "crow" is wholly within the poem and "the" or "a" or even "any" suggests a non-poetic creature in this context.

Even though we engaged in a somewhat lengthy digression on the comparative, we did not spend as much time discussing whether different possible meanings should be equally acceptable, or stating in detail a full account of every way those meanings could be paired in reading the poem. We assume that from poem to poem there will be a shift in emphasis depending on the nature of the poem, the direction of the discussion, and other factors.)

In examining the next two poems we will change our approach from a line-by-line reading in which we question meanings, devices, and effects. Our presentation now will be a more direct exposition containing a hypothetical interpretation, a general statement of devices present in the poem, and finally, support from a close reading of the poem for the interpretation. In contrast to the former presentation, which attempted to simulate the process of poetic investigation, this one will present what a teacher might already have discovered from his own close reading of the poem prior to an investigation of the poem with children.

The first poem is TO BE SUNG BY A SMALL BOY WHO HERDS GOATS, by Yvor Winters. (21, p. 29)

TO BE SUNG BY A SMALL BOY WHO HERDS GOATS

1.

One interpretation of this poem is that it presents an image of felt-unity within nature: boy, goats, lichens, sun and wind, mountains and earth--all are one with each other. This image is created chiefly by context-determined meaning and ambiguity, which arise from the use of particular grammatical patterns and of words which have more than one relevant meaning. Repetition of key words in different syntactic-semantic contexts is also a significant device.

The word "brown" appears three times in the poem and serves as a pivot word. Each brown thing is linked to every other brown thing. "Hair" and "arms" are brown; moreover, they are both "brown as the sun." "Brown earth" becomes the fourth element of felt-unity in nature. "Rough" connects "hair" and "wind" in the first stanza, while "stiff" connects "ears" and "wind" in the third. These grammatical connections have the effect of creating a sense of identity among the various elements.

This interlocking suggests that there may be more to the poem than the image of goats in the first and third stanzas, the boy in the second, and the lichens in the fourth. For example, it is not known whose hair is designated in line one. It could be the goats' or the boy's. "Hair" could even refer metaphorically to the lichens, whose stubby roughness resembles hair--i.e., "hair (which is) on earth." Given this less limiting perspective, it is possible that the "I" of line five is not only the boy but also, again metaphorically, the lichens. "Arms" then is a word which captures the appearance of the arm-like stubby offshoots of the lichens. This reading becomes more plausible when later in the poem the lichens are animated by their occurrence as the grammatical subject of "sleep" and "run." Since the verb "creep" in line seven refers to action that is as much lichen-like as boy-like, it strengthens the possibility of this double reading and thereby furthers the identity of boy and lichen. Lichens are "never done" in that their work of endlessly turning rock into brown earth has continued since the beginning of time. The boy is "never done" in his task of herding the goats, a seemingly endless task in the context of his life. One additional interpretation of lines seven and eight results from the sun's link to these "objects" whose identities are interrelated: these lines present the appearance of the never-ending movement of the sun's rays on the mountains. These ambiguities do not, however, have equal rank in the poem since the primary perspective is the boy's. The effect is then to present the lichens, the goats, and the sun as aspects of the boy's mind.

In the third stanza the ambiguity is continued. The subject of the lines is at least implicitly the goats, with their sharp hoofs and hard eyes. Yet a context-determined interpretation may open the meaning of these lines to include the boy. The literal image of line ten--(something) tramples on the sun--is not meaningful. However, it can be interpreted in two non-literal ways. First, "sun" may indicate the sun as it is reflected on the mountains. In this case, the goats are trampling on the earth where the sun's rays are reflected. Second, "Trample on the sun" may indicate the appearance of an event including the goats jumping on the mountains between the sun and some hypothetical observer; that is, the sun appears under the goats' feet as they leap from rock to rock.

Again in the lines "Sharp ears . . . point the way to run," the grammatical subject is not explicit. This fact permits the reading of either boy or goats as subject: the sharp ears of the boy (or goats) point the way for the boy (or goats) to run. Like the former ambiguities, this one produces a context-determined identity between boy and goats. "Run," the last word of this stanza, is also the last word of the next; its reappearance links not only the boy/goats of the third stanza but also the lichens of the last two lines of the poem. These last two lines present a problem of interpretation, for if "as" means "in the way," the meaning is: "lichens sleep in the way that they run" (i.e., unnoticed). On the other hand, if "as" means "while," the meaning is: "lichens sleep while they run." Even though both are metaphorically possible, there is still the literal impossibility of lichens sleeping or running. Metaphorically, the lichens en masse appear to be still, unmoving--"sleeping"; yet the stubby offshoots (the "arms" of line five) appear to be moving outward over the rocks--"running." Thus, the lichens are given attributes of the boy and the goats--i.e., the ability to run and sleep. As such, the metaphorical flow moves both ways--the attributes of the boy/goats merge into the presentation of the lichens just as those of the lichens merge into the boy/goats. "Life" is not only plant life but also human/animal. This meaning is effected in part by the ambiguity of "life." The phrase "life is in lichens" means both that they are alive and that they are the source of life. This latter meaning itself has two interpretations. Lichens are the source of life because they are a fundamental life-form which turns lifeless rock into fertile earth, and because they are food for goats.

With the interconnections between the various life-forms made clear, it is possible to understand the question of the last stanza: "Who on this brown earth/Knows himself one?" "One" is either a pronoun referring to lichen and the line therefore reads: "knows himself to be a lichen"; or "one" refers to the unity of plant, animal, and human and the line therefore reads: "knows himself to be a unity of plant, animal, human." In a way the question is: who knows the-idea-presented-by-the-poem? The boy shows by his song--the poem--that he knows at least unconsciously. But the fact that these two lines are in question form and that the question is poetic, not a real question to be answered, suggests that human knowledge or consciousness of identity with plant and animal--with nature in general--is rare. This suggestion is reinforced by the word "sleep." Just as the lichens are perpetually asleep--without consciousness--as they live, man is without consciousness of his connection to nature as he lives. This interpretation arises from purely associative links between the poetic elements; there are no formal syntactic-semantic connections. The reader confronts the lines with an idea of human, animal, plant identity and this idea suggests to him the possibility of reading "boy" or "man" for "lichens." Since this reading is plausible, the interpretation of "one" as "unified" and of "one" as "lichen" is further strengthened.

In conclusion, this analysis appears to strongly support the interpretation of the poem as an image of felt-unity within nature. However, in addition to the points made in the investigation there are other interesting linguistic phenomena within the poem. For example, in commenting on the pivotal function of "brown," its effect of linking imagistically other elements within the poem, we did not deal with the semantic problem inherent in the phrase "brown as the sun." The hair and arms are not literally brown as the sun since the sun is not brown. This attempt at literal interpretation is based on the assumption of a regular underlying grammatical form of comparison which permits ellipsis of redundant elements. This form is: "brown as the sun is brown." Since the line is meaningful it must have some type of deviant underlying form which is in the context of the poem recoverable, though not elsewhere. We suggest that this form is something like: "brown as the sun makes them (hair, arms) brown."

The line, "Sharp ears, stiff as wind," presents a similar problem since the wind is not literally stiff. Yet we give this line an interpretation based on some underlying form. It means perhaps that the ears are stiff enough that the wind cannot bend them. More in keeping with the normal comparative form is this: the ears are as stiff as a "stiff" wind is strong. Here the basic comparison is one of degree, which permits dissimilar syntactic-semantic elements to be compared.

The way in which we make such interpretations is partly through our knowledge of the world--sun makes arms brown and wind blows objects over. It is also partly through our knowledge of language. We know that because of the normal process of ellipsis the comparative "as" is usually followed by only a few of the elements needed for a full interpretation. We also know that we can test through paraphrase the rightness of elements we believe to be elided.

One last poetic element of some interest is the comparison in the first line, "sweeter." Because the line "Sweeter than rough hair" is first and the line "On earth there is none" is second, the reader is led to contemplate what might be sweeter than rough hair, or to expect that something will appear which is sweeter. The denial at the very end of the second line thereby emphasizes the meaning of the first, emphasizes the quality of sweetness. The more normal linguistic form, "on earth there is none sweeter than rough hair," does not create this emphatic effect because the negation is perceived before the comparison.

The second poem is by Kenneth Patchen and is entitled, THE MAGICAL MOUSE. (22, p. 14)

THE MAGICAL MOUSE

Our hypothesis is that this poem presents an embodiment of unpredictable and destructive forces. The magic of the mouse is frightening; it is black, not white magic. Anomaly and contrast, as well as stanza form, contribute to the total effect of the poem. What the mouse does is unpredictable, and the form of the poem after the first few stanzas also proves to be unpredictable. The poem contains four statements of what the magical mouse does not do; but these statements do not just rule out certain behavior, they emphatically contrast the innocent behavior of a normal mouse with the sinister behavior of the poem's mouse. It is these contrasts of content and form which establish the import of the poem. Just as magic is only gradually and never fully comprehended, the extent of the magical mouse's powers and erratic nature is only suggested (and the fact that it is only a suggestion makes it one source of the terror he produces).

The title of the poem has three effects. First, "magical" can designate either an attribute of the source of the mouse or the behavior of the mouse--either it may have been created magically, or it may possess magical powers. Second, the very fact of this ambiguity creates uncertainty, if not unpredictability. Third, the nature of the magic is not clear from the title, though as the poem reveals, the mouse's magic is more certainly black than white.

The first stanza's characterization of the mouse is semantically odd: eating sunsets and treetops is bizarre. Sunsets cannot be eaten, though children might observe that the sun's sinking behind the horizon is visually and imaginatively like the sun's being eaten by the earth. Further, the category which must underlie "sunsets/And the tops of trees" is extremely difficult to recover: syntactic-semantic evidence that it is indeed difficult to articulate what the mouse is. One could speculate that sunsets are the ends of days and that treetops are ends of trees, suggesting that the category might be ends-of-things. In the third stanza, the mouse is said to wear the funnels of lost ships and weather under dead leaves. If the underlying category here is ends-of-things, we need to examine the meaning of "lost ships" and "weather under dead leaves." "Lost" means both "in an unknown location" and "sunk." As a ship is sinking, the last part to go under is of course the funnel. In this sense then the funnel is the end of the ship. Looking at the phrase "weather/That's under dead leaves," we find here, too, that category, ends-of-things, for dead leaves are the end of the trees' yearly life, and the weather under them is produced by their decomposition--the end of ends-of-things. Thus, the category for both the first and third stanza can be seen to be the ends-of-things.

The phrase "wear funnels/Of lost ships" needs further investigation. On the one hand, since the mouse is wearing these funnels he must know where the lost ships are. Yet they are still "lost" to others. The obvious question this raises is: what is the magical mouse's connection to their being lost? The connection is never made explicit in the poem, but the effect is to create an ominous tone. The other reading of "lost" (as "sunk") is additionally sinister. The ships are sunk and the mouse is wearing their funnels. The unspoken but clearly possible interpretation is that the mouse caused them to sink. However, the lines provide evidence only that there is a connection between the ships and the mouse; the lack of specification adds to the enigmatic nature of the mouse.

A second point to be made about this phrase is the oddness of literally wearing funnels and the literal impossibility of wearing weather. The coupling of funnels and weather forces the metaphorical interpretation of "wear . . . weather" to be applied to "wear . . . funnels." The meaning of wearing "weather/That's under dead leaves" nearest the literal is perhaps: "surrounding oneself with the weather that is under dead leaves." A further extension of the meaning of "wear" is necessary to include "funnels": the magical mouse is associated with funnels of lost ships and weather under dead leaves. The exact nature of this association is uncertain, but ominous.

Given the interpretation of "wear" as an unspecified "association with" ends-of-things (funnels of lost ships and weather under dead leaves), the prior verb "eat" is reinterpretable. Since sunsets and treetops also fit the category of ends-of-things, "eat" takes on the metaphorical and more general meaning of "consume." It is at this point that we recognize that the magical mouse is not simply a giant Macy-mouse but that the mouse is itself a concentration of all magic, all power. A real mouse (however huge) is an object; the magical mouse is like a force-field which consumes life energy.

The interpretation of the final three lines of the poem, "I eat/Little birds and maidens/That taste like dust," occurs in the light of this same metaphorical meaning of "eat." Since the poem presents the magical mouse as dynamic force or process rather than object, we can interpret the "I" as the force or process involved in the progression toward death, a progression which young beings such as little birds and maidens are in from the moment they are born. Thus, the category established for the first and third stanzas (_ends_-of-things) must be broadened to include the _beginnings_-of-things as well. While we usually view life from the perspective of _increase_ from its beginnings--age, size, knowledge, and so forth--the poem's perspective given through the magical mouse is that of decrease--the consumption of life energy, of life processes themselves. The magical mouse is then this _process_ of life-energy-consumption, the force-field of life which moves living beings towards their death. In the early stanzas of the poem, we are presented with the end-result of this process (ends-of-things); in the last three lines we are presented with the process itself--the ongoing, continuous consumption of life energies of living beings. These beings taste _like_ dust and, thus, their future state is foreshadowed. The poem looks toward their death and itself "senses" that death. The resulting interpretation of the final line must be something like: "the 'I' senses that the little birds and maidens are like the dust that they will become in death." The notion of "sense" is captured metaphorically in the specific word "taste."

Turning from content to form, we discover that several characteristics of the poem contribute to the image of the poem's mouse as unpredictable. First, there is the matter of stanza length. A pattern emerges in the first four stanzas: the number of lines is orderly--four, one, four, one. Since there are two more stanzas in the poem, we might expect them to follow this same pattern. However, like the mouse, the poem proves to be unpredictable, for the final two stanzas are instead: seven, one. In itself, this is interesting but there is more.

The lines of the first four stanzas seem to manifest still another pattern. Notice the "noun-verb" patterns of these lines:

. . .
I don't eat . . .
I eat . . .
And . . .

I don't wear . . .

I wear . . .
and . . .

I don't wear . . .

The pattern can be paraphrases as something like: "I + negated verb" followed by a contrastive "I + verb." The negated verb is followed by one object, while the contrastive positive verb is followed by two conjoined objects. Thus, the expectation created for what should follow "I don't fear cats" (l. 10) is a contrastive "I fear something and something else." Instead, there appears a second thing not feared: woodsowls (what normal mice would fear most). Neither does the next line conform to the "I fear something else" pattern. On the contrary, it is the exact opposite, for "I do as I please" is a positive assertion and an ominous one since whatever it pleases to do is unpredictable, except insofar as it will be destructive. The following line, "Always," has no prior counterpart in the poem and by this fact, as well as by its meaning, serves to emphasize the omnipresent, ubiquitous unpredictability of the magical mouse.

Line sixteen, "I eat," also deviates from a pattern established earlier in the poem. The previous occurrence of the verb "eat" (l. 3), as well as the occurrence of the verb "wear" (l. 6), was followed in the same line with the object(s) of the verb. Here in line sixteen no object-to-be-eaten appears; it is withheld until the next line, creating suspense and emphasis on what the next line reveals to be the object of "eat."

In conclusion, this poem presents elements which are not fully interpretable--for example, the underlying categories of sunsets and treetops, funnels of lost ships and weather under dead leaves, little birds and maidens--and this unpredictability rather than being a flaw (as it might be in another poem) actually contributes significantly to the total image of the partially unknown and completely unpredictable black magic of the "magical mouse."

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# SECTION FOUR

# INVESTIGATION OF SYNTACTIC-SEMANTIC RELATIONSHIPS IN THE SELECTED WRITING OF STUDENTS IN GRADES 4-12

by

William E. Craig

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# SECTION FOUR

# INVESTIGATION OF SYNTACTIC-SEMANTIC RELATIONSHIPS IN THE SELECTED WRITING OF STUDENTS IN GRADES 4-12

## Introduction

One of the directions that the English language has moved in its historical development is from *parataxis* to *hypotaxis*. Parataxis is defined by Webster's New Third International Dictionary as:

> coordinate ranging of clauses, phrases, words one after another without coordinating connectives (as in HE LAUGHED; SHE CRIED) . . . , the placing of a subordinate clause beside a main clause without a subordinate connective (as in I BELIEVE IT IS TRUE, . . . THERE IS A MAN WANTS TO SEE YOU) . . .

while hypotaxis is defined simply as: "syntactic subordination (as by a conjunction)." George O. Curme has summarized this historical shift from parataxis to hypotaxis very briefly:

> There were originally no conjunctions. *Parataxis* reigned supreme, i.e., sentences simply lay side by side . . . . Later, coordination arose . . . [and still later] *hypotaxis*, i.e., formal subordination, a clause with a formal sign of subordination, gradually developed and is still ever developing, introducing finer shades of expression. (1, p. 156)

The philosopher Ernst Cassirer has also pointed out that the history of language itself reveals this progression from simple coordination without connectives (parataxis) to syntactic subordination with connectives (hypotaxis); at first

> [o]ne word follows another in mere coordination, and where several sentences occur, they disclose a loose connection, for the most part without coordination

> conjunctions. The clauses may be strung together, but they are not yet inwardly linked and "interlocked," since there is as yet no linguistic instrument by which to designate and sharply differentiate their subordination and superordination. (2, p. 310)

Cassirer concluded from the prevalence of parataxis in the languages of primitive peoples (chiefly the American Indian and most African languages) that hypotaxis

> . . . is lacking in the languages of primitive peoples, and seems to have been acquired only gradually in the highly developed languages. (2, p. 310)

Does the prevalence of parataxis and the lack of hypotaxis in these "primitive" languages mean that their speakers were unable to think about ideas which are logically related in a superordinate-subordinate relationship? Not at all--it simply means that the paratactic structure of the language forces complex relational ideas into simple paratactic syntax:

> At this early stage a complex logical relation of causal or teleological type--a relation of cause and effect, of condition and conditioned, end and means, etc., must be expressed by simple coordination. Often an absolute construction comparable to the Latin ablative absolute or the Greek genitive absolute serves to indicate highly complex relations of "since" and "after," of "because" and "therefore," of "although" and "consequently." (2, p. 310)

Language, either in the early formative stages or in the most advanced of primitive tongues, does not express subordination (let alone varying degrees of it) in linguistic terms other than coordination. Thus, the separate ideas

> . . . that constitute discourse here lie as it were on a single linguistic plane: there is no differentiation of perspective between foreground and background in speech itself. Language reveals its power of differentiation and articulation in the coordination of the parts of the sentence; but it does not yet succeed in raising this purely static relation to a dynamic relation of reciprocal logical dependency, and expressing it as such. In place of precisely graduated subordinate clauses, a simple gerundial construction may serve, without departing from the law of coordination, to express the most diverse specifications and modifications of action, encompassing them in a stable, but characteristically rigid construction. (2, pp. 310-11)

Ideas, then, reveal their complex relationships to each other in the formative stages of language only through the loose, cumbersome side-by-side arrangement of parataxis. In fact, Cassirer points out that this form of thought when wedded to paratactic speech

> . . . finds a negative but no less characteristic expression in the absence of those classes of words which, as the grammarians' term for them suggests, must be regarded as one of the basic instruments of relational thought and its linguistic expression. The relative pronoun appears to be a late development and, if we consider language as a whole, rather rare. Before language arrives at this formation, the relations which we express by relative clauses must be rendered by . . . complex circumlocution . . . . (2, p. 311)

Having examined examples from various languages in which there are no or very few independent subordinate units, he concludes that

> [a]ll these phenomena seems to show how language takes up the pure category of relation hesitantly, as it were, and learns to apprehend it only deviously, through other categories, particularly those of substance and attribute. (2, p. 312)

This lack of relational linguistic expressions to correspond to the complex relationships among ideas, revealed in the lack of relative pronouns and conjunctions in primitive languages, was not characteristic of primitive languages alone; it was true even of those languages

> . . . which in their general structure have subsequently developed the . . . art of hypotactic articulation . . . to its highest refinement. Even the Indo-Germanic languages, which thanks to their astonishing faculty of differentiating the expression of relation have been called the true languages of philosophical idealism, developed this faculty only gradually. (2, p. 312)

Thus, even in the most highly developed languages, Cassirer found that hypotactic linguistic capacity for expressing the complex relationships among ideas came slowly and emerged only in the latest stages of their development.

> A comparison, for example, between Greek and Sanskrit shows that the different members of this group represent entirely different stages with regard to the

> power and freedom of relational thought and expression. In the "ur-period" the independent clause seems to have predominated over the subordinate clause, the paratactic over the hypotactic connection. Although this ur-language possessed relative clauses, it lacked, according to the evidence of comparative linguistics, a sharply delimited set of conjunctions by which to express cause, consequence, coordination, opposition, etc. (2, pp. 312-13)

Cassirer says that, in Sanskrit, conjunctions were almost toally absent, rendering what other languages expressed by subordinate conjunctions almost entirely by nominal composition and amplification by participial and gerundial expressions. However, even in one of the more highly developed languages, Greek,

> . . . the progress from the paratactic structure of the Homeric language to the hypotactic structure of Attic prose occurred only gradually. (2, p. 313)

Cassirer summarizes his findings from primitive and highly developed languages regarding the shift from parataxis to hypotaxis:

> All this indicates that what Humboldt called the act of autonomous, synthetic postulation in language, and found embodied (apart from the verb) chiefly in the use of conjunctions and relative pronouns, was one of the latest accomplishments of language formation, to which it attained through a variety of intermediary phases. (2, p. 313)

Thus, it seems that the history of both primitive and complex languages reveals that the expression of sentence relationships begins in parataxis, the simple coordinate placing of sentences side by side, and only slowly and gradually moves to hypotaxis, the syntactic subordination of sentences through a variety of relational connectors (relative pronouns and conjunctions) to the main or independent sentence. Since languages themselves go through this progression from simple coordination without connectives to complex subordination with a variety of relational connectives, then it would not be surprising to find that children proceed through a similar progression in their language development: phylogeny recapitulating ontogeny. In fact, Cassirer states that this is so:

> In the earliest stages of language formation which we can examine from a psychological view, simple parataxis is the basic rule of sentence structure.

> *The language of children is everywhere governed by this principle.** (2, p. 310)

As support, he cites the work of Clara and William Stern, *Die Kindersprache*, the major premises of which appear in a later work of William Stern, *Psychology of Early Childhood* (3). Stern's summary of the stages in the child's speech development supports Cassirer's point that children repeat the history of language in passing from parataxis to hypotaxis. (1) The child leaves behind the "one-word sentence" at about age one, combining hesitantly at first two or more words into a complete sentence. (2) At about two years two months, his sentence-formation, although still paratactic, is quite varied: series of exclamations, descriptions, and questions can be formed by this time. (3) Finally, at about two years six months, the purely paratactic sentence-formation is left behind, as the child learns to express varying order of thoughts (superordinate and subordinate) by hypotaxis, and there is rapid growth in the different kinds of subordinate clauses, although the finer differentiation of particles and the mastery of the conjunctive and subjunctive verb-forms require considerable time to learn. The child's questions begin to extend to time and, above all, to the causal relations (WHY? HOW COME?) (3).

Corresponding to these stages in the child's speech development are stages of thought development.

> To begin with, thought stands in the "SUBSTANCE STAGE"; out of the chaos of unnoticed experience there emerges at first substantial form, independently existing persons and things as the separate material of thought. Then follows the "ACTION STAGE"; the existing activities of persons and things are emphasized in thought and attract special interest to themselves. Not until the third stage does the child develop the power to separate from things their inherent qualities and the varying relations existing between them, in the "STAGE OF RELATIONS AND ATTRIBUTES." Of course, as the new stages appear, the powers of the earlier ones show steady increase in extent and variety. (3, p. 389)

Stern cautiously points out that these three stages are not to be thought of as "mental states which the child as a whole passes through in succession, so that at one period he is a 'substance-thinker,' at another an 'action-thinker'; they are rather transition-phases through which the different kinds of intellectual activity severally pass" (3, p. 390).

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*Italics were added in this sentence.

In other words, the child will recapitulate these three stages as he passes from one kind of mental activity to another. Having passed through these three stages in his speech development, the child can be expected to repeat them when he passes through his writing development. Thus, we could expect to find children's writing reflecting the transitions from the SUBSTANCE STAGE to the ACTION STAGE to the STAGE OF RELATIONS AND ATTRIBUTES. In fact, we would predict that students' writing will reveal which of these stages they were passing through at the time of their compositions. In one of Stern's empirical studies,

> . . . it was found that the reports of the seven-year-old children in the elementary schools were almost entirely in the SUBSTANCE STAGE, those of the ten-year-olds in the ACTION STAGE, and of the fourteen-year-olds in the RELATION STAGE, whilst the spontaneous mention of qualities developed still later. (3, p. 391)

Since the STAGE OF RELATIONS AND ATTRIBUTES involves the expression in language of complex relationships between thoughts, this stage might well contain the students' first struggles with hypotactic surface-structure forms. We hypothesize that students in this RELATIONAL AND ATTRIBUTIONAL STAGE will be moving from parataxis to hypotaxis in their written sentences, which will reflect varying degrees of success in making this syntactic shift. At first, they will repeat the history of language-formation in expressing their subordinated ideas in paratactic structures, having no other forms available than these coordinating structures and connectives. Then, as their knowledge expands to include the various hypotactic forms (relative and sentential clauses with appropriate subordinate conjunctions and relative pronouns), they will at first exhibit imperfect mastery of the subordinating connectives through their use of them in essentially paratactic structures, finally achieving mastery of the variety of subordination devices in their particular language and illustrating this mastery in correctly subordinated relative clauses (i.e., using the appropriate relative pronouns) and clauses of time, place, condition, concession, manner, . . . (again, with the appropriate subordinate connective).

Since the students who wrote the sentences we will examine in this investigation are within the age-range of ten to seventeen years old, the stages described in Stern's work with German children lead us to expect them to be progressing from the ACTION STAGE to the RELATION STAGE, with the ATTRIBUTIVE STAGE only beginning to find its mastery of expression in the oldest students. In this transition from the ACTION STAGE to the RELATION AND ATTRIBUTIVE STAGE, sentences would express subordinate/superordinate logical relationships in these characteristic ways:

1. paratactic syntax with and without coordinating connectives;
2. paratactic syntax but with hypotactic connectives;
3. hypotactic syntax but with paratactic connectives;
4. hypotactic syntax but with inappropriate hypotactic connectives; and
5. hypotactic syntax with the appropriate hypotactic connectives.

We would further hypothesize that parataxis will occur in hierarchical stages of development, progressing from coordination without any connectives, to coordination with inappropriate connectives, to coordination with appropriate connectives. Similarly, we would expect hypotaxis to progress from no connectives, to inappropriate connectives, to appropriate connectives. Furthermore, we would expect to find varying degrees of mastery of these syntactic signals at each stage of linguistic development.

## Parataxis Relationships

Preliminary investigation last summer helped to establish a tentative set of grammatical-semantic relationships which guides our examination of student writing.* The analysis of writing was conducted with especial concern for this question: Does each sentence show a fit of grammatical form and semantic relationship? This grammatical-semantic fit means that the syntactic intersentential connective in the student's sentence does not contradict the semantic relationship indicated by the content of his sentence. For example, if the student uses WHEN to introduce a subordinate clause in his sentence, we will expect the semantic relationship to be TIME OF THE ACTION OR EVENT referred to in the main clause. If the content of the subordinate clause does in fact restrict the action or event of the main clause to some specific point(s) in time, then we will say that there is an acceptable fit of syntactic form and semantic content. On the other hand, if the content of the subordinate clause introduced by WHEN restricts the action or event of the main clause to, say, its LOCATION-IN-SPACE, then we will say that there is a conflict of syntactic form and semantic content.

In short, in our investigation we will use the syntactic intersentential connective given in the student's sentence as the starting point for exploring grammatical-semantic fits or conflicts; we will not start with the semantic relationships suggested by the content of the sentence and search for all the possible syntactic representations of them in the sentence. For example, knowing that actions/events can be restricted to the point(s) in time in which they occur, we will not search each sentence for every possible syntactic and lexical surface form such a restriction might take. Frequently, semantic relationships are condensed to a single lexical item; for instance, AFTERWARDS is a word that restricts the action or event referred to in a sentence to a particular time of its occurrence, and it could therefore be considered an intersentential connective signalling a TIME relationship between a main clause and a highly reduced form of the subordinate clause AFTER SOME EVENT OCCURRED. However, since we are not yet sure ourselves of the implications and significance of connectives between explicit sentences and clauses, we want to limit this investigation to the explicit sentences and clauses linked by such connectives as AND, BUT, BECAUSE, WHO, THAT, TOO, ALSO, . . . and their grammatical-semantic fit in students' sentences before we undertake the broader investigation of all syntactic representations of the various semantic relationships that exist between linguistically represented events.

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*These sentences are taken from essays written for the STEP ESSAY TESTS (Forms #2A-D, #3A-D, and #4A-D) administered at four different time periods in the project: Fall, 1967; Spring, 1968; Fall, 1968; and Spring, 1969.

## Parataxis

Parataxis was defined above as the placing of "clauses, phrases, words one after another without coordinating connectives." In students' writing, we find unacceptable parataxis most commonly in what has been traditionally labeled the "run-on" sentence. The effect of such parataxis is that the reader of the sentence supplies a relationship between the two sentences that the student has simply placed side by side, either with no punctuation between them or with a comma separating them. It is often true that the adult reader of these student sentences can supply at least one intersentential relationship, but what is likely to happen is that the reader may be supplying a relationship that the writer did not have in mind. For example, this sixth-grade student's "run-on" sentence:

(1) GORDON IS THIRTY-FOUR OR FIVE, HE WILL PROBABLY RETIRE FROM HOCKEY IN A FEW MORE YEARS*

can, because of the pronoun HE in the second clause, be considered an example of the semantic relationship OBJECT DESCRIPTION, whose usual syntactic signal is either a non-restrictive relative clause or a set of sentences conjoined by AND and containing a pronoun in the second sentence which has a referent noun in the first sentence. One might suggest that either sentence below would make the OBJECT DESCRIPTION relationship syntactically clear:

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*Only students' sentences will be numbered in the text; all others will be lettered.

(1A) GORDON, WHO IS THIRTY-FOUR OR -FIVE, WILL PROBABLY RETIRE FROM HOCKEY IN A FEW MORE YEARS.*

(1B) GORDON IS THIRTY-FOUR OR -FIVE AND HE WILL RETIRE FROM HOCKEY IN A FEW MORE YEARS.

It is possible, however, for another reader to consider the second clause of the student's "run-on" sentence as an example of the semantic relationship REAL EVENT-CONSEQUENCE, which could have been made syntactically clear by any of the following sentences:

(1C) SINCE GORDON IS THIRTY-FOUR OR -FIVE, (THEN) HE WILL PROBABLY RETIRE FROM HOCKEY IN A FEW MORE YEARS.

(1D) GORDON IS THIRTY-FOUR OR -FIVE, AND SO HE WILL PROBABLY RETIRE FROM HOCKEY IN A FEW MORE YEARS.

(1E) GORDON IS THIRTY-FOUR OR -FIVE, AND THUS HE WILL PROBABLY RETIRE FROM HOCKEY IN A FEW MORE YEARS.

(1F) GORDON IS THIRTY-FOUR OR -FIVE; THEREFORE, HE WILL PROBABLY RETIRE FROM HOCKEY IN A FEW MORE YEARS.

(1G) GORDON IS THIRTY-FOUR OR -FIVE; CONSEQUENTLY, HE WILL PROBABLY RETIRE FROM HOCKEY IN A FEW MORE YEARS.

There are probably other semantic relationships that an imaginative reader can suggest to account for these two sentences appearing paratactically; however, our point is that the student writer may have had any of these relationships, or none, in mind as he was writing his "run-on" sentence. We cannot conclude from the paratactic arrangement of the two sentences that they have any particular relationship for the writer, even if we as readers can detect possible semantic relationships between the two sentences. These "detectable" semantic relationships remain potential for the writer, for without any overt syntactic connective between the two sentences, the reader cannot conclude that any particular semantic relationship exists between them.

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*Only students' sentences will be numbered in the text; all others will be lettered.

Another sixth-grade student's "run-on" sentence:

(2) HE DID KIND DEEDS, AND HELPED OLD LADIES ACROSS THE STREET HE WAS VERY TALL AND THIN HE HAD VERY LITTLE SCHOOLING IN A SCHOOL, BUT HE STUDIED IN HIS HOME

illustrates unacceptable parataxis where not even a punctuation mark separates the clauses of the "run-on" sentence. He may have, in fact, merely forgotten to insert periods after STREET and THIN, in which case there are three "independent" sentences whose only connection with each other is the reference in each one to the same person, Lincoln. There appear, however, to be three interrelated semantic sets of ideas in this "run-on": what Lincoln did; what he looked like; what his educational background was. It is not safe to assume that the student perceived these same semantic sets and merely "forgot" to insert the appropriate syntactic connectives that would have made his perceptions clear to the reader. For us to identify what interrelationships were perceived by the student between what Lincoln did (HE DID KIND DEEDS, AND HELPED OLD LADIES ACROSS THE STREET), what he looked like (HE WAS VERY TALL AND THIN), and what his educational background was (HE HAD VERY LITTLE SCHOOLING IN A SCHOOL, BUT HE STUDIED IN HIS HOME), we would require that there be explicit syntactic connectives to signal these relationships.

In the following "run-on" sentences from sixth graders, there are "detectable" semantic relationships that the adult reader perceives existing between the two clauses paratactically arranged:

(3) I ADMIRE JOHN F. KENNEDY, HE WAS ONCE THE PRESIDENT OF THE UNITED STATES.

(4) KENNY IS TRUSTWORTHY, KIND, HELPFUL, OBEDIENT, HE IS JUST LIKE A BOY SCOUT.

(5) HE IS NOT WASTEFUL HE HELPS NATURE IN MANY WAYS.

(6) I WISH I WAS LIKE HIM HE CAN HIT A BALL INTO THE BLEACHERS ALMOST ANY TIME.

(7) HE IS A REAL GOOD SPORTSMAN, I COULD NOT TELL YOU ONE THING THAT HE DOES NOT LIKE.

(8) ATLAS IS A MAN MADE OUT OF STEEL, WITH THE SWING OF HIS HAND HE CAN SMASH A SOLID BRICK INTO FRAGMENTS.

(9) THERE IS ONLY ONE PERSON SO FAR OF CATCHING BABE RUTH'S ALL TIME HOME RUN RECORD OF 714, THAT IS WILLIE MAYS.

(10) ALL THESE GREAT COMEDIANS LIKE ALAN KING, AND BILL COSBY, THEY DON'T WRITE THEIR OWN MATERIAL, THEY JUST KNOW HOW TO DELIVER IT.

(11) WHEN HE PLAYS IN THE OUTFIELD HE USUALLY CAN CATCH FLY BALLS WITHIN 25 FEET OF HIM, ALSO WHEN HE IS PLAYING OUT THERE HE CAN THROW IT IN TO THE SECONDBASEMAN FROM THE FENCE.

In the following "run-ons," also from sixth graders, the potential intersentential relationships are not so easily detectable:

(12) HE TRIES TO CHEER YOU UP WHEN THINGS LOOK BAD HE IS ON THE HONOR ROLL EVERY YEAR.

(13) WHEN MIKE AND I ARE LOAFING AROUND HE ALWAYS HAS SOME IDEA, HE IS ALWAYS BUSY WORKING OR PLAYING AND STUDYING, HE DOES NOT WASTE HIS TIME MIKE AND I ARE BOY SCOUTS MIKE AND I WENT ON A CAMP-OUT TOGETHER I ENJOYED HIS COMPANY.

(14) HE PLAYED FOR THE NEW YORK YANKEES, THE REASON WHY YANKEE STADIUM IS CALLED "THE HOUSE THAT RUTH BUILT" MEANS HE ASKED THE YANKEE MANAGER TO HAVE A NEW STADIUM BUILT SO EVERYBODY WOULD REMEMBER BABE'S GREAT YEARS WITH THE YANKEES.

In this last set, (12)-(14), we might even conclude that the student should have placed periods between the main clauses of each of these "run-ons," converting them into acceptable paratactic sentences. However, it is just as erroneous to conclude that there are no semantic intersentential relationships in students' "run-on" sentences because we can see none as it is to conclude that there are such relationships because we can detect them. It is the lack of explicit intersentential connectives that leads us to supply (or attempt to supply) semantic relationships between main clauses of these students' "run-on" sentences. The best service to students who produce these unacceptable paratactic sentences perhaps would be to acquaint them with the reader's problem: that the reader must supply relationships when they fail to provide appropriate signals, and that, in fact, these relationships may not be the ones intended by the writer.

The next best service to them would be to provide them with the appropriate signals for the relationships they intend to convey.

## General Semantic Principles

Before the various semantic relationships developed last summer could be applied to a systematic analysis of students' writing, it was necessary to determine whether there were any general semantic principles which these various relationships were specific examples of. If not, they were simply an amorphous grouping of semantic relationships that have syntactic representation in the variety of relational connectives that exist in English. A survey of the great traditional grammarians--Curme, Jesperson, Krusinga and Eredes--convinced us that there were semantic "families" to which these semantic relationships belonged. Each of these grammarians separated the relationships they studied into "families," "groups," or "divisions," as a quick check of the table of contents in their grammar studies reveals.

It was from Jespersen's discussion of adjunction and nexus ( 4 ) that two of the general semantic principles suggested themselves: conjunction (augmentation) and restriction (limitation). Conjunction refers to the principle of augmenting the linguistic report of some OBJECT, ACTION, or EVENT* that happens, occurs, or exists in the real world. Restriction refers to the principle of limiting the range of reference of some OBJECT, ACTION, or EVENT in the real world to just those particular "things" and "happenings" perceived by an individual speaker. Conjunction will include such semantic relationships as:

CATEGORY EXPANSION
OBJECT DESCRIPTION (EXPLICATION)
ENUMERATION OF REFERENTS (OBJECTS, ACTIONS, EVENTS)
TEMPORAL SEQUENCE OF ACTIONS OR EVENTS

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*For detailed explanation of these labels for the inhabitants (both animate and inanimate) of the real world and their interactions, as perceived by native speakers of English, see Thomas G. Shroyer, "An Investigation of the Semantics of English Sentences as a Proposed Basis for Language Curriculum Materials" (unpublished Ph.D. dissertation, The Ohio State University, 1969), Appendix A above. "Things" in the world are labeled by Shroyer as OBJECTS; "happenings" are labeled as either ACTIONS or EVENTS. OBJECTS include both animate and inanimate inhabitants of the real world as they are perceived and reported by language speakers.

CONTRAST (OPPOSITION) OF REFERENTS
DISJUNCTION OF REFERENTS

and restriction will include such semantic relationships as:

OBJECT RESTRICTION
CONTINGENT EVENT-CONSEQUENCE
REAL EVENT-CONSEQUENCE
EXPLANATION
PURPOSE
CAUSATION
CONCESSION (EXCEPTION)
COMPARISON
LOCATION OF ACTIONS OR EVENTS
TIME OF ACTIONS OR EVENTS
MANNER OF OCCURRENCE OF ACTIONS OR EVENTS
INSTRUMENT OF ACTIONS OR EVENTS
DEGREE OF INTENSITY OF ACTIONS OR EVENTS

Our investigation will also include the syntactic-semantic relationships involved in nominalizations of sentences and their subsequent embedding in surface sentence positions of nouns. We refer here to noun-clauses (factive and non-factive), gerundive-clauses, and infinitival-clauses that appear in the syntactic positions usually occupied by nouns. We will also examine some of the surface variations (topicalization devices) appearing in students' sentences; for example, extraposition of noun-clauses, gerundive-clauses and infinitival-clauses to terminal positions in surface sentences; clefting of syntactic units within surface sentences as signalled by such "dummy" units as IT, THERE, WHAT, THE THING THAT, THE REASON WHY; and passivization of noun-verb-noun sentences. Finally, we will record surface "errors" of tense and modality; agreement, concord, and government; transcription (redundancies and omissions of words, letters and internal punctuation); negation; word order; word choice; run-ons; and fragments.

The syntactic intersentential connectives that signal these various semantic relationships can be both coordinative and subordinative. In fact, at least one of the conjunctive relationships and at least two of the restrictive relationships have both kinds of connectives. For example, the conjunctive relationship of OBJECT DESCRIPTION (EXPLICATION) can be signalled by the intersentential coordinative connective AND or by the subordinative connective WHO (WHOM, or WHICH). The restrictive relationship of REAL EVENT-CONSEQUENCE can be signalled by the intersentential coordinative connectives AND SO, AND THUS, THEREFORE, and CONSEQUENTLY or by the subordinative connectives SINCE . . . THEN and NOW THAT . . . THEN. Therefore, if Cassirer's assumption is true that children approximate the evolution of the language in their own linguistic development, then we might hypothesize that younger children write more coordinative than subordinative connectives, and that each child will move from parataxis (lack of connectives) through coordination to hypotaxis (subordination) as his predominant syntactic mode of signalling semantic relationships as he develops linguistically, perceptually, and cognitively.

## Explicit intersentential relationships

Once explicit connectives begin appearing between sentences to express the semantic relationships existing between them, the shift from parataxis to hypotaxis has begun, both in the evolution of languages and in the development of children's linguistic skills. These intersentential relationships seem to be of two general types: either conjunction of ideas or restriction of ideas. Conjunction is the general semantic principle of augmentation, elaboration, enumeration, cumulation of "things-in-the-world" that are perceived to be "linked" in some way to each other in the mind of the individual speaker(s) of the language. Restriction is the general semantic principle of limiting, qualifying or modifying the range of reference of "things-in-the-world" to just those particular "things" perceived by the individual speaker(s).

There seem to be several types of conjunction in English: (1) CATEGORY EXPANSION seems to involve the expansion of a REFERENT into a collection or set of REFERENTS that belong to the same category of REFERENTS as the original one; (2) OBJECT DESCRIPTION seems to involve the description (explication) of an OBJECT (person, animal, plant, tool, . . .) by means of a similar set of OBJECTS that illustrate, illuminate or describe the original OBJECT further; (3) ENUMERATION OF REFERENTS seems to involve the listing, counting, naming off of other REFERENTS in addition to the original one mentioned; (4) TEMPORAL SEQUENCE OF ACTIONS/EVENTS seems to involve the temporal concatenation of other ACTIONS/EVENTS that occur after the original ACTION/EVENT mentioned; (5) CONTRAST seems to involve the presentation of other REFERENTS unlike, dissimilar or opposed to the original one mentioned; and (6) DISJUNCTION seems to involve the presentation of alternative REFERENTS that may be mutually exclusive options.

There are two general types of restriction in English: OBJECT restriction and ACTION/EVENT restriction. OBJECT restriction seems to involve the limitation of the original OBJECT to a particular member of the class of OBJECTS to which the original one belongs. ACTION/EVENT restriction seems to involve the qualification or modification of the original ACTION/EVENT in a variety of ways: in its spatial or temporal location; in the manner in, or the degree to which it takes place; in the explanation, cause or purpose of its occurrence; in the real or contingent circumstances under which it takes place; or in the comparison of its occurrence to other occurrences (either similar or dissimilar).

We will examine these semantic relationships of conjunction and restriction from these viewpoints: (1) what relationships the syntactic connectives are the appropriate signals for; (2) whether children in their writing use appropriate or inappropriate connectives; and (3) what stage in the shift from parataxis to hypotaxis the various connectives represent.

## Conjunction and Restriction

### Conjunction

Category expansion.--One of the first intermediate stages to appear in the historical shift from parataxis to hypotaxis was the explicit presence of coordinating connectives, and one of the earliest of these connectives was AND, as illustrated by the coordination of noun phrases in the following sentences:

(A) JOHN AND MARY ARE INTELLIGENT.*

(B) MARY KNOWS A POLE, A SPANIARD, AND A FRENCHMAN.

(C) MY BROTHERS, JACK AND PETER, ARE VERY HANDSOME.

(D) JACK AND PETER ARE VERY HANDSOME.

In each of these sentences, several noun phrases have been conjoined to each other by AND: John AND Mary; a Pole, a Spaniard, AND a Frenchman; Jack AND Peter. What semantic relationship exists between the persons named by these noun phrases connected by the grammatical conjunction AND?

Anna Wierzbicka puts forth the claim that such coordinated noun phrases result from conjunction expansion, rather than conjunction reduction (5). The generally accepted view of linguists seems to be that sentences like JOHN AND MARY ARE INTELLIGENT are derived from the reduction of two conjoined sentences JOHN IS INTELLIGENT AND MARY IS INTELLIGENT by the deletion of common identical elements (and whatever tense change is necessary in the resultant verb form). Except in those special instances where stress-intonation is given to IS in both predicates in order to contradict some earlier remarks about the respective intelligences of these two people, such sentences as JOHN IS INTELLIGENT AND MARY IS INTELLIGENT are not normal English sentences, Wierzbicka contends. Instead, sentence (A) above:

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*Only students' sentences are numbered; all others will be lettered.

JOHN AND MARY ARE INTELLIGENT

is understood as being equivalent in meaning to sentences like:

TWO PEOPLE I KNOW (i.e., JOHN, MARY) ARE INTELLIGENT.

Similarly, sentence (B) can only be understood in a context like:

MARY KNOWS THREE FOREIGNERS (THREE EUROPEANS): A POLE, A SPANIARD, AND A FRENCHMAN.

For Wierzbicka, the AND in sentence (B) means that there should be some common denominator for the coordinated constituents. It may be that the interpreter of this sentence has to make a guess about what the common denominator might be: it may be either three foreigners or three Europeans that Mary knows, but

> [w]hatever the common denominator is, there must be one: otherwise the sentence would not be understandable or even would seem senseless. (5, p. 9)

Generally speaking, then, Wierzbicka is making the claim that a sentence of the form:

> $S_1$, $S_2$, and $S_3$ are P*
>
> is never derived from
>
> $S_1$ is P, $S_2$ is P, and $S_3$ is P.
>
> The true underlying structure has rather the form:
>
> S (i.e., $S_1$, $S_2$, $S_3$) is P. (5, p. 9)

Thus, the coordinated elements in a sentence are really "only an apposition to the explicitly given or elliptically omitted real subject, which is considered a complex (collectivum)" (5, p. 10). Thus in sentence (A) above, the noun phrase "John and Mary" is short for "those people I know (John, Mary)" and in sentence (B) "a Pole, a Spaniard, and a Frenchman" is short for "three foreigners (Europeans) Mary knows (a Pole, a Spaniard, a Frenchman)." According to Wierzbicka, then, the noun phrase "$NP_1$ and $NP_2$" means "NP ($NP_1$, $NP_2$)," where NP is a category NP that has been expanded into the set containing the members $NP_1$, $NP_2$.

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*S = Subject; P = Predicate.

Sentences (C) and (D) illustrate the difference between the explicit or implicit presence of the category which has been expanded into a set containing several members of the category. In sentence (C), MY BROTHERS, JACK AND PETER, ARE VERY HANDSOME, the category to which JACK AND PETER belong is the explicitly present one: MY BROTHERS. In sentence (D) the category to which JACK AND PETER belong is only implicitly present, but can easily be recovered since the predicate ARE VERY HANDSOME suggests that the category has to be limited to such NP's as THESE MEN, THESE BOYS, MY BROTHERS, SOME MEN I KNOW, . . . . In the cases of implicitly present category NP's, the context of the sentence (or preceding sentences) should make the category NP recoverable. Thus, the noun phrases we have examined in sentences (A)-(D) are examples of what Wierzbicka designates as conjunction expansion:

> In fact, then, coordination might be rather called "conjunction expansion" than "conjunction reduction": such an expression as "$NP_1$ and $NP_2$" is offered as an alternative name referring to the same object as the (explicitly or implicitly) given expression "NP", the only difference being that the expression "$NP_1$ and $NP_2$" shows the object as a set of elements, whereas the description "NP" shows it as a whole. (5, p. 13)

Wierzbicka examines the function of the connective AND in the surface coordinations like JACK AND PETER; JOHN AND MARY; A POLE, A SPANIARD, AND A FRENCHMAN. She points out that although there is a person in the real world of the speaker that corresponds to the word JACK (JOHN, A POLE, A SPANIARD) and although there is a person in the real world that corresponds to the word PETER (MARY, A FRENCHMAN), there is nothing in the real world of the speaker that corresponds to the expression JACK AND PETER (JOHN AND MARY; A POLE, A SPANIARD, AND A FRENCHMAN). AND is therefore a relationship indicator in such coordination phrases; it is not a referent word like JACK, JOHN, MARY, or PETER. For Wierzbicka,

> and is an operator which indicates the explicit or implicit presence of a common denominator and which requires the latter's reconstruction in cases when it is omitted. (5, p. 16)

Wierzbicka's claim then is that AND in coordinated noun phrases is the surface-structure signal (i.e., the grammatical form) that indicates the explicit or implicit presence of a category NP to which belongs the set of NP's it coordinates. When the category NP is implicit, the interpreter of the coordinated noun phrase must be able to reconstruct it in order to render the coordinated set meaningful.

The semantic relationship resulting from CATEGORY EXPANSION is thus expressed grammatically by AND placed between the members of the set belonging to the category being expanded. So far, we have examined only CATEGORY EXPANSION resulting in the syntactic form $NP_1$ AND $NP_2$ as illustrated by Wierzbicka, but CATEGORY EXPANSION can also result in the syntactic forms $VP_1$ AND $VP_2$ and $S_1$ AND $S_2$. ACTIONS, as well as OBJECTS, can be categorized and hence expanded; for example, JOHN HAS TWO ADVANTAGES: YOUNG, HANDSOME (or JOHN IS YOUNG AND HANDSOME); JOHN PARTICIPATES IN TWO SPORTS ACTIVITIES: PLAYS TENNIS, WRESTLES (or JOHN PLAYS TENNIS AND WRESTLES). EVENTS can also be categorized and expanded; for example, THE CHILDREN ARE ENGAGED IN VARIOUS ACTIVITIES: JOHN IS BUILDING A MODEL AIRPLANE; SALLY IS PLAYING WITH HER DOLLS; SAM IS PLAYING IN THE SANDBOX; JANE IS READING A COMIC BOOK (or JOHN IS BUILDING A MODEL AIRPLANE, SALLY IS PLAYING WITH HER DOLLS, SAM IS PLAYING IN THE SANDBOX, AND JANE IS READING A COMIC BOOK). Therefore, we will consider CATEGORY EXPANSION one of the semantic conjunction relationships existing between "things-in-the-world" (REFERENTS) which results syntactically in $NP_1$ AND $NP_2$ in the case of OBJECT-categories, $VP_1$ AND $VP_2$ in the case of ACTION-categories, and $S_1$ AND $S_2$ in the case of EVENT-categories.

In students' writing, we find many examples of unacceptable CATEGORY EXPANSION, where the effect of the coordinating connective AND is to suggest that a category exists when it is difficult for us to recover any category to which all of the coordinated elements could belong. Occasionally, we can recover a category to which some, but not all, of the coordinated elements belong; occasionally, we can recover a category to which all of the coordinated elements belong, although we still find the syntactic form unacceptable. Take for example this sentence produced by a seventh-grade student on his essay written for the STEP Essay Test (Form #3A, Fall, 1967):

(15) *SHE WEIGHS SEVEN POUNDS AND EIGHT OUNCES, BLUE EYES AND BLOND HAIR.

We know from our own experiences with language and the real world that the student is describing a baby girl, for we know that SEVEN POUNDS AND EIGHT OUNCES is a commonly reported weight for new-born infants. We gain additional support from the student's previous sentence in which he tells of the arrival of his new baby sister, although we would not have needed that information to have understood sentence (15) above. The coordinated NP's themselves--SEVEN POUNDS AND EIGHT OUNCES, BLUE EYES, BLOND HAIR--suggest a category to us immediately, for these items are those usually supplied in information about new-born infants: their weight, their hair- and eye-color. Combined with the feminine SHE, these NP's are enough to suggest the most probable category NP to which the coordinated NP's belong: PHYSICAL ATTRIBUTES OF NEW-BORN INFANT GIRL.

However, although SEVEN POUNDS AND EIGHT OUNCES, BLUE EYES, BLOND HAIR are all members of the category PHYSICAL ATTRIBUTES OF NEW-BORN INFANT GIRL (SISTER OF STUDENT), we find the student's coordination of them in sentence (15) unacceptable. Why? Because the coordinated NP's follow the verb WEIGHS, as if the baby sister not only weighs seven pounds and eight ounces but also weighs blue eyes and blond hair! As native speakers, we know that we do not ordinarily conjoin two meanings of WEIGH in the same sentence, as the unacceptable coordinations in these sentences illustrate:

(E) *JOHN WEIGHS$_1$ 150 POUNDS AND WEIGHS$_2$ TOMATOES AT WORK EVERY DAY.

(F) *JOHN WEIGHS 150 POUNDS AND TOMATOES AT WORK EVERY DAY.

(G) *JOHN WEIGHED$_2$ THE BALES OF HAY AND WEIGHED$_1$ TWO POUNDS LIGHTER YESTERDAY.

(H) *JOHN WEIGHED THE BALES OF HAY AND TWO POUNDS LIGHTER YESTERDAY.

Neither do we ordinarily allow a single appearance of WEIGH to stand for both meanings in the same sentence. Therefore, the student's syntactic coordination of the NP's of weight, hair- and eye-color immediately following the verb WEIGHS confronts the reader with a category expansion that is not acceptable.

Another example of an unacceptable syntactic NP coordination can be seen in this sixth-grade student's sentence:

(16) *HE HAS NINE BROTHERS THAT ARE OLDER THAN HIM AND TWO SISTERS.

It is true that this student's siblings might consist of two younger sisters and nine older brothers--in which case, the student's nine brothers are indeed older than both himself and his sisters. This could have been made syntactically clear by this sentence:

(16A) HE HAS NINE BROTHERS THAT ARE OLDER THAN HE AND HIS TWO SISTERS (ARE).

However, the student might be the youngest member of the sibling group, and this relationship could have been made syntactically clear by this sentence:

(16B) HE HAS NINE BROTHERS AND TWO SISTERS THAT ARE OLDER THAN HE (IS).

It is entirely possible, though, that the student only intended to report the number of brothers and sisters he has, but that after reporting that he has nine brothers he may have decided to further describe the brothers as being older than he is. This relationship could have been made syntactically clear by the coordination and non-restrictive relative clause of this sentence:

(16C) HE HAS NINE BROTHERS, WHO ARE OLDER THAN HE (IS), AND TWO SISTERS.

Therefore, the student's syntactic coordination of the NP's HIM and TWO SISTERS confronted us with a CATEGORY EXPANSION that could have resulted from any one of three possible semantic relationships, none of which can be said with any certainty to be the one he had in mind.

In the following sentence, the sixth-grade student has an unacceptable coordination of NP's and VP's:

(17) *HE'S POLITE, DEPENDABLE, PLEASANT, A GOOD PLACE-KICKER AND JUST A GREAT GUY.

What appears in the surface coordination as a single CATEGORY EXPANSION turns out upon close examination to be several CATEGORY EXPANSIONS. For example, the three VP's--POLITE, DEPENDABLE, PLEASANT--probably belong to the category VP: HAS POSITIVE PERSONALITY CHARACTERISTICS, while the first NP--A GOOD PLACE-KICKER--describes some athletic feat that the person-being-described is particularly good at, and the second NP--JUST A GREAT GUY--seems to represent the student's judgment of the overall personality characteristics of the person he's describing. In fact, the last NP appears to be an explicit statement of a category to which the three VP's--POLITE, DEPENDABLE, PLEASANT--could belong! If we ignore the NP A GOOD PLACE-KICKER for a moment, we could see that this judgment NP is indeed the explicit category to which the three VP's belong, and this relationship could have been made syntactically clear in this sentence:

(17A) HE'S JUST A GREAT GUY: POLITE, DEPENDABLE, AND PLEASANT.

And if JUST A GREAT GUY is considered an acceptable NP-variant of the VP JUST GREAT, then sentence (17A) is an acceptable variant of this sentence:

(17B) HE'S JUST GREAT: POLITE, DEPENDABLE, AND PLEASANT.

But how does the NP A GOOD PLACE-KICKER fit into the category VP HAS POSITIVE PERSONALITY CHARACTERISTICS (i.e., JUST GREAT)? We know that young boys often idolize sports players, and therefore it is not hard to imagine that a sixth-grade boy might consider some feat of athletic prowess a positive characteristic of a friend or schoolmate of his that he particularly admired. Particularly so, if the category being expanded is something like JUST GREAT (or JUST A GREAT GUY)! If this is the case, then we might not want to object to this particular sixth grader's including in his CATEGORY EXPANSION some reference to his friend's ability as a place-kicker. If he were an older student, we might want him to determine whether A GOOD PLACE-KICKER really belongs to the category VP JUST GREAT, or whether it more appropriately belongs to some category VP like IS A GREAT ATHLETE. We must remember, though, that the categories that we see are not necessarily the ones the students should be expanding; the students should be made aware of our problems as readers when confronted with, for example, the CATEGORY EXPANSION in sentence (17), and their responsibilities as writers to make as certain as they can that their coordinated NP's, VP's and S's result from clearly stated or unambiguously recoverable categories.

In the following sentence from a sixth-grade student:

(18) *GARY LEWIS IS A NICE AND CLEAN LOOKING SINGER

we find the VP-coordination NICE AND CLEAN LOOKING.* The reader is confronted with a coordination whose category is not unambiguously recoverable, for in English the phrase NICE AND often functions as an intensifier of the VP it precedes, an intensifier meaning VERY, QUITE (A), EXCEPTIONALLY, . . . . When we say, for example, of someone's home that it is NICE AND CLEAN, what we frequently mean is that it is VERY CLEAN, EXCEPTIONALLY CLEAN, UNCOMMONLY CLEAN, EXTRAORDINARILY CLEAN. What we ordinarily do not mean is that the home has two positive advantages that might make us want to rent it, buy it, or visit it: NICE, CLEAN. However, with this student's coordinated VP's--NICE AND CLEAN LOOKING--it is not clear whether NICE AND functions as the intensifier of CLEAN LOOKING, or as the first half of a pair of coordinated set of VP's that belong to some category VP like HAS TWO POSITIVE ADVANTAGES THAT RECOMMEND HIM AS A SINGER OR PERFORMER. What we might ask of the student is that he disambiguate his original sentence so that the semantic relationship he has in mind is clear to the reader. If he means to intensify CLEAN LOOKING, then this relationship could be made syntactically clear by this sentence:

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*We consider pre-posed adjectives as derived from relative clauses in which these adjectives appear as VP's; for example, sentence (18) is a derivation of this sentence: GARY LEWIS IS A SINGER WHO IS NICE AND CLEAN LOOKING.

(18A) GARY LEWIS IS A VERY CLEAN LOOKING SINGER.

On the other hand, if he means to expand a category VP like HAS TWO POSITIVE ADVANTAGES THAT RECOMMEND HIM AS A SINGER OR PERFORMER, then this relationship could be made syntactically clear by this sentence:

(18B) GARY LEWIS IS A NICE AND A CLEAN LOOKING SINGER.

In the sentences containing category expansions of VP's that we have examined so far, the category VP's have been descriptive of the physical or psychological attributes of people, i.e., adjectival VP's. Even commoner in students' writing are the ACTION VP-coordinations, many of which we find unacceptable. For example, this seventh-grade student's sentence:

(19) *THE PERSON I WOULD TRY TO SEE WOULD BE THE PRESIDENT OF THE UNITED STATES AND GO IN EVERY ROOM OF THE WHITE HOUSE BECAUSE I . . . ALWAYS DID WANT TO SEE THE PRESIDENT IN PERSON

contains a very clear connection between THE PERSON I WOULD TRY TO SEE WOULD BE THE PRESIDENT OF THE UNITED STATES and BECAUSE I ALWAYS DID WANT TO SEE THE PRESIDENT IN PERSON. The student has reported the fact that he would like to see the President and has offered a reason for wanting to see him. These two ideas are clearly related semantically and expressed in the appropriate syntactic connective BECAUSE, and had their surface-structure forms been immediately set down together, we would have clearly understood the sentence:

(19A) THE PERSON I WOULD TRY TO SEE WOULD BE THE PRESIDENT OF THE UNITED STATES BECAUSE I ALWAYS

DID WANT TO SEE THE PRESIDENT IN PERSON.

But the student's recorded version indicates that the writer perhaps got side-tracked between the report of his desire to see the President and his reason for wanting to see him; perhaps something about seeing the President suggested the idea to him of going into every room of the White House. Since we know that the home of any U.S. President is the White House, and since any seventh grader is likely to know that too, it is not surprising that as well as seeing the President, this student might also think of seeing the White House. What this suggests is that there would be no CATEGORY EXPANSION at all in the student's sentence, but rather an enumeration of the activities he might participate in if he were to visit the President. A semantic relationship of ENUMERATION OF REFERENTS might result in a sentence like this:

(19B) THE PERSON I WOULD TRY TO SEE WOULD BE THE PRESIDENT OF THE UNITED STATES BECAUSE I ALWAYS DID WANT TO SEE THE PRESIDENT IN PERSON, AND ALSO WHILE I WAS VISITING HIM, I COULD GO INTO EVERY ROOM IN THE WHITE HOUSE.

Perhaps the student has explicitly announced his category in his sentence--THE PERSON I WOULD TRY TO SEE--and perhaps THE PRESIDENT OF THE UNITED STATES is the first half of a pair of coordinated elements. But what is the second half of this pair? GO IN EVERY ROOM OF THE WHITE HOUSE? Probably not, for if the category is THE PERSON I WOULD TRY TO SEE, it is not clear that this category could be expanded to include the ACTION of going into every room of the White House; furthermore, it is not clear that it could have more than one member in an expansion set. Therefore, it is not very likely that the category being expanded is THE PERSON I WOULD TRY TO SEE. Perhaps the category is THOSE ACTIONS I MIGHT ENGAGE IN AT THE WHITE HOUSE, whose expansion could result in a VP-coordination like SEE THE PRESIDENT, GO INTO EVERY ROOM OF THE WHITE HOUSE. If this were the relationship involved, either of the following sentences could have made it syntactically clear:

(19C) I WOULD TRY TO DO THESE THINGS IF I WERE TO VISIT THE WHITE HOUSE: I WOULD TRY TO SEE THE PRESIDENT OF THE UNITED STATES AND GO INTO EVERY ROOM OF THE WHITE HOUSE.

(19D) I WOULD TRY TO SEE THE PRESIDENT OF THE UNITED STATES AND GO INTO EVERY ROOM OF THE WHITE HOUSE (IF I WERE TO VISIT IT).

If it were this VP category expansion that resulted in

AND GO IN EVERY ROOM OF THE WHITE HOUSE, part of the difficulty with the student's original sentence could be explained: I WOULD TRY TO SEE THE PRESIDENT OF THE UNITED STATES is presented in one of its variant forms: the topicalization cleft-sentence: THE PERSON I WOULD TRY TO SEE WOULD BE THE PRESIDENT OF THE UNITED STATES. However, the student failed to cleft the second half of the coordinated set, for it remains in its unclefted form AND GO IN EVERY ROOM OF THE WHITE HOUSE. The fully clefted version of this coordination would resemble this sentence:

(19E) THE PERSON I WOULD TRY TO SEE WOULD BE THE PRESIDENT OF THE UNITED STATES AND THE THING I WOULD TRY TO DO WOULD BE TO GO INTO EVERY ROOM IN THE WHITE HOUSE.

We would still be left with BECAUSE I ALWAYS DID WANT TO SEE THE PRESIDENT IN PERSON, which does not offer a reason for both activities of the category expansion. If the student's explanation were to include his reason for wanting to see the White House, as well as the President, then a sentence like either of these would have been acceptable:

(19F) THE PERSON I WOULD TRY TO SEE WOULD BE THE PRESIDENT OF THE UNITED STATES AND THE THING I WOULD TRY TO DO WOULD BE TO GO INTO EVERY ROOM IN THE WHITE HOUSE BECAUSE I ALWAYS DID WANT TO SEE THE PRESIDENT AND THE WHITE HOUSE IN PERSON.

(19G) (IF I WERE TO VISIT THE WHITE HOUSE,) I WOULD TRY TO SEE THE PRESIDENT OF THE UNITED STATES AND GO INTO EVERY ROOM OF THE WHITE HOUSE BECAUSE I ALWAYS DID WANT TO SEE THE PRESIDENT AND THE WHITE HOUSE IN PERSON.

Thus, for this student's sentence, we have found at least two different kinds of semantic relationships that might have been involved in his production of the unacceptable VP-coordination: (1) CATEGORY EXPANSION and EXPLANATION; or (2) ENUMERATION OF REFERENTS and EXPLANATION. The student's sentence is unacceptable because it gives no clear indication of which set of relationships was actually involved in the production of his sentence.

The reasons for our rejection of the following seventh-grade student's sentence:

(20) *OUR NEIGHBORS ARE NICE EVERY SATURDAY IN THE SUMMER WE HAVE A PARTY OVER AT THE SCHOOL AND KNOW YOU WILL ENJOY IT

go beyond whatever objections we might raise about the "run-on" and the ambiguity of the final pronoun IT, which can refer either to (1) the school, (2) the party held every Saturday at the school, (3) the fact that these parties are held at the school, or (4) the fact that these parties are regular occurrences in the summer. From the apparent VP-coordination HAVE A PARTY . . . AND KNOW YOU WILL ENJOY IT, we can infer that, whatever the category VP is that results in this syntactic coordination, it is performed by WE. To a native speaker, KNOW means, when it refers to the anticipated emotional response of someone else to a fact or event he is speaking of, that he *is certain that* the other person will react in a particular way to that fact or event. Generally speaking, the native speaker asserts only that he *alone* is certain of the communicant's response, and will record this as *I* KNOW THAT YOU WILL LIKE SOMETHING. Therefore, if the student meant to assert that he alone was certain that YOU WILL ENJOY GOING TO IT, he failed to recall that the *recorded* communicator of this certainty was WE, which although it includes the student himself certainly includes at least one other person. The apparent VP-coordination leaves the reader then with the interpretation that *both the student and others* HAVE A PARTY EVERY SATURDAY and that *both he and others* KNOW THAT YOU WILL ENJOY IT.

Let's assume, however, that the student *did* mean that both he and others (probably his teen-age friends who go to these parties) have these parties regularly in the summer and that both he and others know that the communicant will enjoy them or enjoy knowing about them. Asserting a feeling such as certainty about another's emotional response to some news presented to him is a quite different ACTION from merely reporting the news to him. Therefore, it is difficult for us to recover the category VP to which HAVE A PARTY . . ., KNOW YOU WILL ENJOY IT can both belong. Furthermore, if we look more closely at the first half of the coordinated pair of VP's, we find that it is not only the fact of the occurrence of these parties that the student reports but the fact of their *regular* occurrence. Not only is the *fact* of these regular occurrences in the past asserted, but the *assumption* is that these regular occurrences will occur in the future, in the time-to-come when the communicant will be present, for the presence of the grammatical present tense WE HAVE A PARTY combined with the time phrase EVERY SATURDAY IN THE SUMMER suggests the timeless generality of the event reported. EVERY SATURDAY IN THE SUMMER WE HAVE A PARTY . . . means EVERY SATURDAY IN THE SUMMER WE *HAVE HAD* A PARTY . . . AND WE *WILL CONTINUE HAVING* A PARTY EVERY SATURDAY IN THE SUMMER. When we look at the second half of the coordinated pair, we discover that the time perspective is no longer general (i.e., timeless), but specific: WE KNOW means NOW (IN THE PRESENT MOMENT, IN THE MOMENT THAT I'M WRITING THIS), WE KNOW (ARE CERTAIN), while YOU WILL ENJOY IT means LATER (AT SOME TIME IN THE FUTURE, PROBABLY THIS COMING SUMMER), YOU WILL ENJOY IT.

Therefore, from two perspectives, the recovery of a category VP seems extremely difficult: (1) there seems to be no ACTION VP that could serve as a category whose expansion would result in one VP reporting facts and another VP asserting certainty of another's emotional response to these facts; and (2) there seems to be no ACTION VP that could serve as a category whose expansion would result in one VP reporting general-timeless events and another VP reporting time-specific events. Furthermore, it is not clear that WE (meaning the student and others) can be both the party-goers of the first VP and the knowledgeable ones of the second VP. We conclude that sentence (20) contains an unacceptable VP-coordination because no category can be recovered that would result in the category expansion of HAVE A PARTY . . . AND KNOW YOU WILL ENJOY IT.

In the following seventh-grade student's sentence:

(21) *HE HAS A VERY FUNNY PERSONALITY AND HUMORS MANY OTHER PEOPLE

we find a VP-coordination* whose underlying category VP is difficult to recover. Although part of the difficulty might lie in the ambiguity of FUNNY, which can mean either comic (amusing, humorous), odd (strange, peculiar), sick (unwell, ill), or sneaky (underhanded, sly), it is probably safe to assume that FUNNY means comic, rather than any of the other meanings, since the NP that HE refers to is comedian Red Skelton. Complicating the search for a category VP is the usual meaning of the second VP in the coordination, for HUMORS MANY OTHER PEOPLE ordinarily means INDULGES MANY OTHER PEOPLE IN THEIR WHIMS OR WEAKNESSES. It is difficult to imagine what letting other people have their own way has in common with a comic personality that would suggest to us a category VP whose expansion results in the VP-coordination HAS A VERY FUNNY PERSONALITY, HUMORS MANY OTHER PEOPLE. Unless, of course, the category VP _is_ HAS A VERY FUNNY PERSONALITY, and HUMORS MANY OTHER PEOPLE is somehow an example of it! If the category VP _is_ IS VERY FUNNY (HAS A VERY FUNNY PERSONALITY), then the first VP in the coordination is the _explicit_ statement of the category and the second VP is one member of a set of examples that could illustrate it. The AND of the VP-coordination would, in this case, be unacceptable, since its presence suggests that the coordinated VP's belong to an implicitly present category VP--it cannot coordinate the explicit statement of the category and one example of it.

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*We can view HAS A VERY FUNNY PERSONALITY as an NP-variant of the VP IS VERY FUNNY or as a cleft-variant of HIS PERSONALITY IS VERY FUNNY. In either case, the coordination with HUMORS MANY OTHER PEOPLE suggests the expansion of a category VP.

Perhaps the student thinks that Red Skelton IS VERY FUNNY BECAUSE HE INDULGES OTHER PEOPLE IN THEIR WHIMS AND WEAKNESSES. If this is so, then the semantic relationship between HE HAS A VERY FUNNY PERSONALITY and HUMORS MANY OTHER PEOPLE is one of EXPLANATION, not CATEGORY EXPANSION, and the student has used the surface signal AND (CATEGORY EXPANSION) for the surface signal BECAUSE (EXPLANATION). His sentence should have been one like this sentence:

(21A) HE HAS A VERY FUNNY PERSONALITY (IS VERY FUNNY) BECAUSE HE HUMORS (INDULGES) MANY OTHER PEOPLE.

Another possibility, which cannot be overlooked, is that HUMORS MANY OTHER PEOPLE for this student means CAUSES OTHER PEOPLE TO BE AMUSED, or IS HUMOROUS TO MANY OTHER PEOPLE. Either the student has chosen the latter form and in the recording act has forgotten IS, misspelled HUMOROUS, and omitted TO; or he has created a new verb HUMORS to mean CAUSES-TO-BE-AMUSED. Whichever the student has done (made some transcribing errors or created a new VP), the VP-coordination remains puzzling. What category VP could be expanded to result in IS VERY FUNNY, CAUSES MANY OTHER PEOPLE TO BE AMUSED (or IS VERY HUMOROUS TO MANY OTHER PEOPLE)? It seems more likely that CAUSES MANY OTHER PEOPLE TO BE AMUSED (or IS VERY HUMOROUS TO MANY OTHER PEOPLE) is an example of the category VP IS VERY FUNNY, rather than both being members of some other, only implicitly present category VP. It seems just as likely that CAUSES MANY OTHER PEOPLE TO BE AMUSED (or IS HUMOROUS TO MANY OTHER PEOPLE) is an explanation of IS VERY FUNNY, rather than both resulting from the expansion of some other, only implicitly present category VP. Therefore, we conclude that, whatever the interpretation given to HUMORS MANY OTHER PEOPLE, it cannot be the second half of a pair of coordinated VP's.

The use of AND to connect the explicit statement of a category and an example of it (or one member of a set of examples of it) is not unusual in students' writing. For example, in this sixth-grade student's sentence:

(22) *HE IS A VERY GOOD PLAYER AND CAN SHOOT AND MAKE IT FROM ALMOST ANYWHERE ON THE COURT

the first half of the apparent VP-coordination, HE IS A VERY GOOD PLAYER, is really the explicit statement of a category VP (PLAYS VERY WELL), and the second half of the apparent coordination, CAN SHOOT AND MAKE IT FROM ALMOST ANYWHERE ON THE COURT, is really an illustrative example of how well he plays basketball. In another sixth grader's sentence:

(23) *HE IS A VERY GOOD SKIER AND WON THREE GOLD MEDALS FOR SKIING IN THE 1968 WINTER OLYMPICS IN GRENOBLE, FRANCE

we again find the explicit statement of the category VP, SKIS VERY WELL, given as if it were the first half of a VP-coordination, while the illustrative example of how well he skis, WON THREE GOOD MEDALS . . . IN GRENOBLE, FRANCE, appears as if it were the second half of that coordination. Similarly, in these sentences written by sixth graders:

(24) *HE WAS A GOOD PRESIDENT AND FREED . . . COLORED MEN FROM SLAVERY

(25) *HE HAS A GOOD TEMPER AND KEEPS CALM DURING HIS GAMES

(26) *HE JUST ACTS LIKE A GENTLEMAN AND ADMITS HE DID IT

we see the explicit category statements (HE WAS A GOOD PRESIDENT, HE HAS A GOOD TEMPER, and HE JUST ACTS LIKE A GENTLEMAN) appearing as if they were the first halves of VP-coordinations, while the illustrative examples (FREED COLORED MEN FROM SLAVERY, KEEPS CALM DURING HIS GAMES, and ADMITS HE DID IT) appear as if they were the second halves of the coordinations. We expect explicit statements of categories (which are to be expanded) to be set off from the expansion of them, whether the expansion contains one or two (or more) instances of their illustrative examples. For example, we would find acceptable the following versions of sentences (22)-(26):

(22A) HE IS A VERY GOOD PLAYER: HE CAN SHOOT AND MAKE IT FROM ALMOST ANYWHERE ON THE COURT.

(23A) HE IS A VERY GOOD SKIER--HE WON THREE GOLD MEDALS FOR SKIING IN THE 1968 WINTER OLYMPICS IN GRENOBLE, FRANCE.

(24A) HE WAS A GOOD PRESIDENT: HE FREED COLORED MEN FROM SLAVERY.

(25A) HE HAS A GOOD TEMPER; FOR EXAMPLE, HE KEEPS CALM DURING HIS GAMES.

(26A) HE JUST ACTS LIKE A GENTLEMAN--HE ADMITS HE DID IT.

Therefore, we conclude that sentences like (22)-(26) are unacceptable when AND is used to coordinate the category VP with one member of its expansion, for they create the impression that the two VP's are themselves coordinated and force us to search for an implicit category to which they belong.

In this sixth-grade student's sentence:

(27) *HE HAD A BIG FAMILY, AND WAS A FAMILY MAN

we find an odd VP-coordination, one in which the second half appears to be equivalent in meaning to the first half. HAD A BIG FAMILY seems at first glance to be synonymous with WAS A FAMILY MAN, so that the second VP is a redundant restatement of the first. However, if we look more closely at the second VP, WAS A FAMILY MAN, we discover that it probably means something like TO BE DEVOTED TO HIS FAMILY, and not TO BE A MAN WITH A BIG FAMILY (i.e., HAVE A BIG FAMILY). It now appears that the second VP does not mean the same thing as HAD A BIG FAMILY, for a man could be devoted to his family without necessarily having a large one, and a man could have a large family without necessarily being devoted to it. Thus, HAD A BIG FAMILY and WAS A FAMILY MAN seem to have nothing in common except the somewhat superficial connection that they each deal with the man's FAMILY. The only category VP, then, seems to be HAD A FAMILY, to which HAD A BIG FAMILY and WAS A FAMILY MAN do not seem to belong except superficially.

It is possible, though, that these two VP's do have a relationship to each that is more than just superficial membership in the category VP HAD A FAMILY. Since, as we pointed out above, it is not necessary that a man with a large family be devoted to it, or that a man devoted to his family have a large one, perhaps it is just that relationship the student had in mind: that this particular man is indeed devoted to his large family! This relationship might have been made syntactically clear in a sentence like this:

(27A) NOT ONLY DID HE HAVE A LARGE FAMILY, BUT HE WAS ALSO DEVOTED TO HIS FAMILY.

The relationship signalled by NOT ONLY . . . BUT ALSO can also be expressed by such signals as NOT ONLY THAT . . . TOO, IN ADDITION TO THAT . . . , ON TOP OF THAT . . . . If this relationship is the one this student intended, his surface sentence could have been any one of the following:

(27B) HE NOT ONLY HAD A BIG FAMILY, BUT HE ALSO WAS A FAMILY MAN.

(27C) HE HAD A BIG FAMILY; NOT ONLY THAT, HE WAS A FAMILY MAN, TOO.

(27D) HE HAD A BIG FAMILY; IN ADDITION TO THAT, HE WAS A FAMILY MAN.

(27E) HE HAD A BIG FAMILY; ON TOP OF THAT, HE WAS A FAMILY MAN.

Therefore, the student's sentence (27) is unacceptable because the relationship suggested by the coordinating AND is either superficial (CATEGORY EXPANSION of the VP HAD A FAMILY), misleading (REFERENT ENUMERATION using the CATEGORY EXPANSION signal AND), or redundant (HAD A BIG FAMILY = WAS A FAMILY MAN).

In students' writing, we often come across apparent VP coordinations whose category VP would be as superficial as HAD A FAMILY was for sentence (27) above. In these cases, it is more likely that the relationship involved is ENUMERATION OF REFERENTS, rather than CATEGORY EXPANSION; for example, in this sixth grader's sentence:

(28) *HE IS A NATIVE OF FRANCE AND IS GOOD LOOKING

perhaps the only category VP that could result in the VP-coordination of IS A NATIVE OF FRANCE and IS GOOD LOOKING is something like HAS THESE CHARACTERISTICS, which as a category VP is so general and so superficial that almost any characteristic a person might possess could be a member of its expansion sets. In short, it is probably too general to be useful as a category for expansion because the range of its examples is practically infinite. What is probably involved here is the much looser semantic relationship, ENUMERATION OF REFERENTS, whose syntactic connectives include AND ALSO, AND TOO, NOT ONLY . . . BUT ALSO, IN ADDITION, BESIDES, FURTHERMORE, MOREOVER, ON TOP OF THAT, and NOT ONLY THAT . . . TOO. If ENUMERATION OF REFERENTS is the semantic relationship involved in sentence (28) above, then we would find acceptable this version of it, which makes syntactically clear the ENUMERATION relationship:

(28A) HE IS A NATIVE OF FRANCE AND (HE) IS ALSO GOOD LOOKING

in which the appearance of the second HE is optional, for the presence of ALSO in the second VP prevents the AND from being mistaken for the AND of VP-coordination. Similarly, in these sixth-grade students' sentences:

(29) *HE IS VERY TALL AND IS ADMIRED BY MANY OTHERS

(30) *HE IS VERY FAMOUS AND GOES MANY PLACES ON HIS VACATION

(31) *SOMETIMES HE WOULD TRY TO GET HUMOR INTO HIS SPEECHES, AND WAS ALWAYS WELL DRESSED

(32) *HE PLAYS FOR THE CLEVELAND BROWNS, IS A GREAT RUNNING BACK AND IS A GREAT GUY

(33) *HIS GRADES ARE EXCELLENT AND IS A GOOD ATHLETE

the category VP's are so general and superficial that the VP coordinations are unacceptable, suggesting that the relationship probably involved is ENUMERATION OF REFERENTS. Sentences (29)-(33) would have been acceptable if there had been some syntactic signal for ENUMERATION, as in these sentences:

(29A) HE IS VERY TALL AND (HE) IS ALSO ADMIRED BY MANY OTHERS.

(30A) HE IS VERY FAMOUS AND (HE) ALSO GOES MANY PLACES ON HIS VACTION.

(31A) SOMETIMES HE WOULD TRY TO GET HUMOR INTO HIS SPEECHES, AND ALSO (HE) WAS ALWAYS WELL DRESSED.

(32A) HE PLAYS FOR THE CLEVELAND BROWNS, IS ALSO A GREAT RUNNING BACK AND IS A GREAT GUY TOO.

(33A) HIS GRADES ARE EXCELLENT AND HE IS ALSO A GOOD ATHLETE.

The last type of VP-coordination we want to examine before turning to S-coordination is the GO AND DO SOMETHING coordination that students frequently produce, for example,

(34) ?I DON'T THINK I WOULD GO AND SEE ANYTHING SPECIAL.

(35) ?WHEN I FINISH MY BOOK I GO AND PLAY WITH GAIL.

(36) ?WHEN THERE IS NO SCHOOL I SOMETIMES GO AND PLAY ON THE PLAYGROUND.

In these sentences, the VP-coordination is simply GO AND DO SOMETHING; in the following sentences, the VP-coordination is GO SOMEWHERE AND DO SOMETHING:

(37) ?WHEN I RETURNED HOME I WOULD GO TO MY ROOM AND JUST STARE.

(38) ?I WOULD THEN GO TO MY COUSINS' AND PLAY . . . .

(39) ?THEN I WOULD GO TO AN ART MUSEUM AND LOOK AT ONLY THE BEST PAINTINGS . . . .

(40) ?THEN I'D GO HOME AND TELL MY MOTHER . . . .

(41) ?IN THE WINTER I JUST READ A GOOD BOOK OR GO OUT AND PLAY IN THE SNOW.

It seems that these GO (SOMEWHERE) AND DO SOMETHING coordinations are ambiguous, for it is not clear whether the relationship is one of CATEGORY EXPANSION, TEMPORAL SEQUENCE OF ACTIONS, or PURPOSIVE RESTRICTION. That is, is GO (SOMEWHERE) AND DO SOMETHING to be interpreted as MOVE TO ANOTHER LOCATION AND THEN DO SOMETHING THERE, or MOVE TO ANOTHER LOCATION IN ORDER TO DO SOMETHING THERE, or simply ENGAGE IN SOME ACTIVITY IN SOME LOCATION OTHER THAN WHERE YOU ARE NOW LOCATED? In sentences like these:

(42) THEN AFTER WE HELP MOM WE GO OUT TO PLAY

(43) OR SOMETIMES WE GO DOWNTOWN TO SHOP . . .

there is no ambiguity, for the infinitives TO PLAY and TO SHOP make it clear that the relationship is purposive: IN ORDER TO. But in sentences like (34)-(41), there seems no clearcut way of determining which of the three possible relationships is unambiguously intended. Our best guess at this point is that GO (SOMEWHERE) AND DO SOMETHING phrases are ambiguous: they mean not only ENGAGE IN SOME ACTIVITY IN A LOCATION OTHER THAN THE ONE YOU ARE NOW LOCATED IN, but also MOVE TO ANOTHER LOCATION AND THEN DO SOMETHING THERE, and MOVE TO ANOTHER LOCATION IN ORDER TO DO SOMETHING THERE too. Since the syntactic form of these apparently ambiguous relationships is that of VP-coordination, and since we can find no valid reason for considering this form unacceptable, we have considered all such GO (SOMEWHERE) AND DO SOMETHING phrases in students' sentences as acceptable CATEGORY EXPANSIONS.

Many of the same problems that occur in students' unacceptable VP coordinations also occur in their S-coordinations perhaps because ACTIONS (i.e., VP's) and EVENTS (i.e., S's) are the linguistic representations of "things that happen (occur) in the real world." For example, we have an apparent S coordination in this sixth-grade student's sentence:

(44) *HE IS BIG AND STRONG, HE IS VERY ATHLETIC, HE IS ON THE TRACK TEAM AND THROWS THE SHOTPUT AND THE DISCUS.

The apparent coordination of three sentences (HE IS BIG AND

STRONG, HE IS VERY ATHLETIC, HE IS ON THE TRACK TEAM . . . ) suggests a category EVENT (i.e., S) that has been expanded to produce this set of three S's. While it is possible to recover a category S like HE HAS THESE PHYSICAL ATTRIBUTES OF STRENGTH that might expand into the coordination of the first two sentences above (HE IS BIG AND STRONG, HE IS VERY ATHLETIC), the third sentence does not belong to this expansion set. Instead, HE IS ON THE TRACK TEAM AND THROWS THE SHOTPUT AND THE DISCUS is an example of HOW ATHLETIC HE IS; i.e., the third sentence is a specific example of the general attribute of strength (VERY ATHLETIC) mentioned in the second sentence. What we have then is the announcement of a category EVENT in the second sentence followed by one specific example of its expansion set in the third sentence. As we have seen before in looking at some unacceptable VP-coordinations, a category cannot be coordinated with any example of it, and therefore we would expect this relationship to be made syntactically clear in a sentence like this:

(44A) HE IS BIG AND STRONG, AND HE IS VERY ATHLETIC: HE IS ON THE TRACK TEAM AND THROWS THE SHOTPUT AND THE DISCUS.

The colon in sentence (44A) is one of the syntactic signals for the explicit statement of the category-being-expanded; another signal is the dash, and still others are FOR EXAMPLE, and E.G., and LIKE, . . . .

Closer examination of HE IS BIG AND STRONG AND HE IS VERY ATHLETIC suggests that these are only apparent coordinations, for the category EVENT we suggested (HE HAS PHYSICAL ATTRIBUTES OF STRENGTH) seems to be a paraphrase of the first sentence, HE IS BIG AND STRONG. It does not seem likely, though, that the first sentence is a category statement for which the second is a specific example; rather, it seems that the second sentence is a consequence of the first. Although it is true that all boys who are BIG AND STRONG are not necessarily VERY ATHLETIC, it seems to be true of this particular boy: HIS BIGNESS AND STRENGTH LEAD HIM TO BECOME VERY ATHLETIC. If so, we would expect this EVENT-CONSEQUENCE relationship to be made syntactically clear in a sentence like this:

(44B) HE IS BIG AND STRONG, AND CONSEQUENTLY HE IS VERY ATHLETIC . . . .

Therefore, a sentence which made syntactically clear both the EVENT-CONSEQUENCE relationship and the CATEGORY EXPANSION relationship (where the category-being-expanded is explicitly stated) might be one like this:

(44C) HE IS BIG AND STRONG (AND) SO HE IS VERY ATHLETIC; FOR EXAMPLE, HE IS ON THE TRACK TEAM AND THROWS THE SHOTPUT AND THE DISCUS.

In the following sixth grader's sentence:

(45) *IN NOVEMBER OF 1963 HE WAS ASSASSINATED BY A SNIPER AND HIS VICE-PRESIDENT TOOK HIS OFFICE

we find an S-coordination that on first glance looks and sounds acceptable, because the category seems to be announced in the initial prepositional time phrase, IN NOVEMBER OF 1963 (i.e., EVENTS WHICH HAPPENED IN NOVEMBER, 1963). In the context of the student's essay, however, we find it unacceptable, for the student is writing about why he would like to be like President John F. Kennedy, and he is recounting some of the heroic events the late President took part in. Although it is difficult for us to see how Kennedy's assassination fits into the theme of the essay, at least it was an event in which Kennedy was involved. Therefore, if there is a category EVENT for sentence (45), it is something like EVENTS WHICH HAPPENED TO PRESIDENT KENNEDY IN NOVEMBER OF 1963. If so, then the assumption of his office by Vice-President Johnson is not part of any coordination set resulting from the expansion of this category. If the idea of Johnson's becoming President as a result of Kennedy's assassination is to be left in this sentence, then a much different relationship must be sought, for example, EVENT-CONSEQUENCE or TEMPORAL SEQUENCE OF EVENTS, as made syntactically clear in these sentences:

(45A) IN NOVEMBER OF 1963 HE WAS ASSASSINATED BY A SNIPER AND THUS HIS VICE-PRESIDENT TOOK HIS OFFICE.

(45B) IN NOVEMBER OF 1963 HE WAS ASSASSINATED BY A SNIPER AND THEN HIS VICE-PRESIDENT TOOK HIS OFFICE.

It is, thus, the context in which sentence (45) appears that determines its unacceptable coordination of sentences, since the category EVENT it suggests is not part of the sequence of EVENTS being recounted.

There are instances of S-coordination for which the category EVENT is as general and superficial as those category ACTIONS suggested for sentences (28)-(33) above in which the relationship was more likely ENUMERATION OF REFERENTS than CATEGORY EXPANSION. In this sixth grader's sentence:

(46) *HE IS AN A STUDENT AND I THINK HE IS ONE OF THE . . . BEST BASKETBALL PLAYERS OF THE WORLD

the only category EVENT we can recover is something like HE IS GOOD IN THESE SCHOOL ACTIVITIES. The difficulty with expanding this category is that one of the coordinated S's refers to a fact about his scholastic performance and the other the student's own judgment of the athletic performance of the person he is describing. A much looser semantic relationship, like ENUMERATION OF REFERENTS, seems more likely, and would be syntactically clear in a sentence like this:

(46A) HE IS AN A STUDENT AND HE IS ALSO, I THINK, ONE OF THE BEST BASKETBALL PLAYERS OF THE WORLD.

Similarly, the only connection between the first sentence and the second one in:

(47) *I THINK THE PACKERS ARE A GREAT TEAM, AND I'M HOPING THAT SOMEDAY I'LL GET TO BE LIKE BART STARR AND BE ONE OF THE GREAT PASSERS OF N.F.L. HISTORY

is the superficial fact that BART STARR is a member of the PACKERS who the student thinks are a great team. It is more likely that the semantic relationship is not CATEGORY EXPANSION but rather ENUMERATION OF REFERENTS, which might result in a sentence like this:

(47A) I THINK THE PACKERS ARE A GREAT TEAM AND I'M ALSO HOPING THAT SOMEDAY I'LL GET TO BE LIKE BART STARR AND BE ONE OF THE GREAT PASSERS OF N.F.L. HISTORY.

It might even be true that the semantic relationship is EXPLANATION, which might result in a sentence like this:

(47B) BECAUSE I THINK THE PACKERS ARE A GREAT TEAM, I'M HOPING THAT SOMEDAY I'LL GET TO BE LIKE BART STARR AND BE ONE OF THE GREAT PASSERS OF N.F.L. HISTORY.

Whatever the relationship is, it does seem clear that it is not CATEGORY EXPANSION, since no category EVENT that we can recover would account for the coordinated S's of sentences (46) and (47).

One more type of S-coordination we want to examine before leaving the topic of CATEGORY EXPANSION is best illustrated by these sentences from a sixth-grade student:

(48) I LIKE HIM BECAUSE HE IS A GOOD PITCHER AND
BECAUSE HE HAS A GOOD PERSONALITY.

(49) ?I WOULD LIKE TO BE LIKE HIM BECAUSE FOOTBALL IS
MY FAVORITE SPORT AND IT IS THE MOST FUN, I
THINK.

In sentence (48), it is clear that two restricted S's of EXPLANATION have been coordinated as the result of the expansion of some category like FOR THESE REASONS. In sentence (49) it is not clear whether two restricted S's of EXPLANATION have been coordinated, or two main (principal) S's have been coordinated. If the latter, it is difficult to determine what the category EVENT is that has been expanded to produce the coordination of I WOULD LIKE TO BE LIKE HIM . . . and IT IS THE MOST FUN, I THINK. If the former, the category is either FOR THIS REASON, or FOR THESE REASONS, depending on whether we view the coordination as one reason with internal S-coordination, or as two coordinated reasons. For reasons that will be more obvious when the semantic relationship OBJECT DESCRIPTION (EXPLICATION) is discussed below, we view sentence (49) as an expansion of the category FOR THIS REASON, i.e., as one reason with internal S-coordination, not CATEGORY EXPANSION coordination, because of the pronoun reference, IT, in the second sentence to the NP FOOTBALL in the first, and because of the descriptive content of the second sentence.

Although it seems fairly easy to view sentence (49) as a CATEGORY EXPANSION of the restrictive relationship of EXPLANATION, in this sentence:

(50) ?I WOULD WANT TO BE . . . LIKE PRESIDENT KENNEDY
BECAUSE HE WAS ALWAYS GENEROUS IN HELPING
PEOPLE, AND I THINK HE WAS A VERY NICE MAN

it is not clear whether the coordination results from the CATEGORY EXPANSION of the restrictive relationship of EXPLANATION, whether it results from the CATEGORY EXPANSION of some EVENT, or whether it results from an unacceptable syntactic representation of the ENUMERATION OF REFERENTS relationship. We find it difficult to recover any category EVENT that might result in the coordination of I WOULD WANT TO BE LIKE PRESIDENT KENNEDY . . . and I THINK HE WAS A VERY NICE MAN. We also find it difficult to be certain whether the AND is an acceptable connective signalling the CATEGORY EXPANSION of the restrictive relationship of EXPLANATION or an unacceptable syntactic signal for the ENUMERATION relationship more appropriately signalled by AND ALSO, AND TOO, NOT ONLY . . . BUT ALSO, . . . . After we examined other sentences like (50):

(51) ?I WISH I WAS LIKE HIM BECAUSE HE KNEW HOW TO EXPRESS HIMSELF, AND HE ALWAYS KNEW WHAT TO SAY

(52) ?I WISH I WERE LIKE HIM BECAUSE HE WAS BRAVE AND
HE KNEW WHAT HE WAS DOING AND HE HANDLED ALL
THINGS WITH GREAT KNOWLEDGE

(53) ?I WANT TO BE LIKE HIM BECAUSE I WANT TO BE A
PLACE-KICKER, HE'S MY COUSIN, AND, WELL, I AM
AWFUL PROUD OF HIM

(54) ?I WISH I WAS LIKE HIM BECAUSE I WANT TO BE A
GOOD RUNNING BACK AND I WANT TO BE A GOOD SPORT
WHENEVER I PLAY FOOTBALL

(55) ?HE IS RESPECTED A LOT BY GROWNUPS BECAUSE HE
LOOKS DECENT AND DRESSES DECENT AND HE DOESN'T
SING ALL THOSE WILD SONGS

(56) ?MICKEY CHOSE BASEBALL FOR HIS SPORT BECAUSE HIS
FATHER WAS A GREAT PLAYER IN BASEBALL AND HE
. . . TOLD MICKEY TO PLAY BASEBALL WHEN HE
GREW UP

we decided that the AND is an acceptable syntactic signal of the CATEGORY EXPANSION of the restrictive relationship of EXPLANATION, and we have therefore considered student sentences like (50)-(56) acceptable.

However, not all sentences like these contain an acceptable CATEGORY EXPANSION of the restrictive relationship EXPLANATION. For example, this sentence:

(57) *I COULD NOT GET A BASE HIT IN A REAL GAME
BECAUSE THE BALL GOES SO FAST AND I CAN'T
SEE IT

contains an apparent expansion of an EXPLANATION relationship in BECAUSE THE BALL GOES SO FAST AND I CAN'T SEE IT. However, the intensifier SO in SO FAST seems in this case to require completion in a DEGREE OF INTENSITY relationship whose syntactic signal is SO X . . . THAT S, and what seems the most likely candidate for the completion of the SO FAST is the sentence I CAN'T SEE IT. Therefore, rather than having one reason with internal S-coordination, we think there is a DEGREE OF INTENSITY relationship which could have been made syntactically clear in this sentence:

(57A) I COULD NOT GET A BASE HIT IN A REAL GAME
BECAUSE THE BALL GOES SO FAST THAT I CAN'T
SEE IT.

Object description or explication.--One of the simplest syntactical forms of the semantic relationship OBJECT DESCRIPTION OR EXPLICATION is noun apposition, i.e., the juxtaposition of two nouns, both of which are names for the same OBJECT in the real world, side by side with no overt syntactic connective between them, for example, MY SISTER MAY, MY COUSIN JOHN, MY BROTHER JOHN. Students do not usually have difficulty with the syntactic representation of appositive relationships because they do not normally require any overt syntactic connective between the two surface NP's in order to signal the OBJECT DESCRIPTION/EXPLICATION relationship. There is, though, an appositive relationship for which there is a syntactic signal: I.E., used to indicate EXPLICATION of some term for which the speaker feels further definition is necessary to prevent misunderstanding or to enlighten hearers who may never have heard the term before. For example, this sixth-grade student's sentence:

(58) *HE IS AT LEAST SIX NINE, SIX FEET, NINE INCHES TALL

lacks the I.E. signal after the phrase SIX NINE, which the student apparently felt needed to be explicated as SIX FEET, NINE INCHES TALL. Although it may be difficult for us to understand why he thought SIX NINE would be misinterpreted or not known by his reader, we recall that the assignment given the student may have been responsible for this EXPLICATION. The student was asked to respond to an inquiry about American family life from a young French boy, and therefore, he may have been uncertain as to whether his French reader would have been familiar with the expression "SIX NINE" as a description of how tall someone is, and so tacked on his EXPLICATION SIX FEET, NINE INCHES TALL just in case the French boy would not have been aware of what SIX NINE meant. Therefore, we would have expected this OBJECT DESCRIPTION/ EXPLICATION relationship to have resulted in this syntactically clear sentence:

(58A) HE IS AT LEAST SIX NINE, I.E., SIX FEET NINE INCHES TALL.

When we move beyond kinship designations and definition statements, OBJECT DESCRIPTION/EXPLICATION relationships frequently result in the syntactic form of what is called by traditional grammarians the non-restrictive relative clause, for example, MR. SMITH, WHO IS MY BOSS, . . . ; JOHN, WHO IS THE PRESIDENT OF STUDENT COUNCIL, . . . ; MR. JOHNSON, WHO WAS OUR FORMER PRESIDENT, . . . . Traditionally, non-restrictive relative clauses are contrasted with restrictive relatives, and we will do so too. While this necessarily means discussion of two distinctly different semantic relationships in this section, we feel there is no clearer way of describing the OBJECT DESCRIPTION

OR EXPLICATION relationship and its syntactic representations.

Noam Chomsky, in Cartesian Linguistics, claims that restrictive relative clauses do not affirm or assert the truth of the proposition stated in the relative clause, whereas non-restrictive relative clauses do.* For example, the sentence MEN WHO ARE PIOUS ARE CHARITABLE is the linguistic representation of the logical propositions (x: men)·(y: pious)·(x+y: charitable). Chomsky points out that it is not being asserted as true that ALL MEN ARE PIOUS and that ALL MEN ARE CHARITABLE; what is being asserted is that ONLY PIOUS MEN ARE CHARITABLE, once the idea of PIOUS and the idea of MEN have been judged as compatible--i.e., that there is such an OBJECT-in-the-world as PIOUS MEN. On the other hand, the sentence MEN, WHO ARE PIOUS, ARE CHARITABLE is the linguistic representation of the logical propositions (x: men)·(x: pious)·(x: charitable), where it is being asserted as true that ALL MEN ARE PIOUS and that ALL MEN ARE CHARITABLE. Thus, in a sentence containing both a restrictive relative and a conjunctive relative:

(I) THE DOCTRINE WHICH IDENTIFIES THE SOVEREIGN GOOD WITH THE SENSUAL PLEASURE OF THE BODY, WHICH WAS TAUGHT BY EPICURUS, IS UNWORTHY OF A PHILOSOPHER

there are the following logical propositions: (x: doctrine)·(y: identification of the sovereign good with the sensual pleasure of the body)·(x+y: taught by Epicurus)·(x+y: unworthy of a philosopher). What is being asserted as true is that the complex idea (x+y) had been taught by Epicurus and that the complex idea (x+y) is unworthy of a philosopher. What is not being asserted as true is proposition y (identification of the sovereign good with the sensual pleasure of the body) (6).

Thus, logical propositions which ultimately produce conjunctive relative clauses feature a single OBJECT about which several descriptions or explications of it are asserted as being true. Logical propositions that ultimately produce restrictive relative clauses feature two propositions whose combination can be judged compatible and for which combination a third proposition can be asserted as true. There is no assertion of truth about the combined propositions individually; it is their compatibility in combination that is being asserted, not their individual truth. Logical propositions of the form $\exists x$ (x: A)·(x: B)·(x: C) we will identify as the semantic relationship OBJECT DESCRIPTION OR EXPLICATION, one of whose syntactic representations is the conjunctive relative clause. Logical propositions of the form $\exists x, y\ (x: A)\cdot(y: B)\cdot(x+y: C)$ we will identify as the semantic relationship OBJECT RESTRICTION, whose only syntactic representation is the restrictive relative clause.

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*We will use the term conjunctive relative clause in place of the more traditional non-restrictive relative clause because we feel it is more revelatory of the distinction between these two types of relatives.

The conjunctive relative clause is not the only syntactic representation of the semantic relationship OBJECT DESCRIPTION OR EXPLICATION. For example, the logical propositions $\exists x\ (x: \text{men})\cdot(x: \text{pious})\cdot(x: \text{charitable})$ produce any of the following sentences:

(J) MEN, WHO ARE PIOUS, ARE CHARITABLE.

(K) MEN, WHO ARE CHARITABLE, ARE PIOUS.

(L) MEN ARE PIOUS, AND THEY ARE CHARITABLE.

(M) MEN ARE CHARITABLE, AND THEY ARE PIOUS.

(N) MEN ARE PIOUS, AND MEN ARE CHARITABLE.

(O) MEN ARE CHARITABLE, AND MEN ARE PIOUS.

All six sentences assert as true that ALL MEN ARE PIOUS and that ALL MEN ARE CHARITABLE. Sentences (J)-(K) contain one assertion in the form of a conjunctive relative clause; sentences (L)-(M) contain both assertions as main clauses coordinated by AND, with the second clause containing the pronoun THEY whose NP-referent is MEN in the first clause; sentences (N)-(O) also contain both assertions as main clauses coordinated by AND, with the NP-referent in the second clause being identical in form with the NP-referent of the first clause, i.e., MEN. No matter which syntactic representation results from the semantic relationship OBJECT DESCRIPTION OR EXPLICATION, the OBJECT-being-described (explicated) is identical in both clauses: MEN and WHO in sentences (J)-(K); MEN and THEY in sentences (L)-(M); MEN and MEN in sentences (N)-(O). Which assertion becomes the conjunctive relative or the second main clause seems to be a matter of psychological emphasis.

There is one additional criterion that the OBJECT involved in any semantic relationship of OBJECT DESCRIPTION OR EXPLICATION must meet: this criterion, described by Sandra Annear, is the speaker's assumptions that the hearer possesses sufficient prior or independent knowledge of the OBJECT so that no further identification or limitation of it is necessary. If the speaker feels reasonably certain that, from the context of the dialogue itself or from conventions with which both the speaker and hearer are familiar, the hearer will identify the OBJECT being referred to by the speaker's noun, then whatever else he says about that same noun will be additional description or information (explication) of that OBJECT. If the speaker is uncertain of his hearer's being unable to identify precisely which OBJECT he is referring to, then he will usually identify or limit the OBJECT named to precisely this or that one out of all the possible ones he might have been referring to so that the hearer will be able to identify the same OBJECT as the speaker (7). Thus, the determination of which relationship is called for, whether OBJECT DESCRIPTION (EXPLICATION) or OBJECT RESTRICTION, is contextually-oriented, and depends upon what assumptions the speaker makes about his hearer's knowledge of the OBJECT being referred to. We can see now why it is difficult to determine whether a relative clause is restrictive or conjunctive when we look at its container sentence in isolation; we must generally refer to the context in which the sentence appears in order to know whether the clause is the result of OBJECT DESCRIPTION (EXPLICATION) or OBJECT RESTRICTION. This determination, we might add, only becomes a problem in writing, for in speech it is usually easy to determine from a speaker's levels of intonation, and in fact it rarely even becomes a consciously determined matter: we intuitively judge from the speaker's pauses (or lack of them) or intonation levels whether the relative clause we hear is conjunctive or restrictive. One of the syntactic results of this contextual-orientation is that (1) the restrictive relative clause is always accompanied by a definite determiner preceding the noun it is attached to, and (2) the conjunctive relative clause is accompanied by either an indefinite determiner preceding the noun it follows or a definite determiner and commas setting off the relative clause from its noun (pauses and lowered intonation pattern in speech). According to Annear,

> no matter how we state what we mean by "restriction," we will see that it only applies to noun phrases with definite determiners. That is, . . . the hearer is more likely to be able to identify the referent in the sentence the linguist who gave the first paper than he would be if the sentence had no relative clause, simply because there are likely to be more linguists in the situation in which such a sentence might be uttered than linguists-who-gave-the-first-paper. But in a sentence like I saw a child who was carrying a huge dog come out of the store "restrictiveness" plays no role at all. (7, pp. 15-16)

Therefore, a sentence like THE BOY WHO PLAYED TAPS IS A FRIEND OF MINE is likely to be uttered in a dialogue in which the speaker has decided that the hearer does not have enough prior or conventional knowledge to know which BOY is being referred to as A FRIEND OF MINE, and therefore restricts the OBJECT to the one

WHO PLAYED TAPS; the syntactic result is a restrictive relative clause that would be uttered with no significant pause after BOY and no lowering of the intonation level of the voice. If this dialogue were to be transcribed into writing, the speaker would not set off the restrictive clause with commas. On the other hand, a sentence like JOHN, WHO PLAYED TAPS, IS A FRIEND OF MINE is likely to be uttered in a dialogue in which the speaker has assumed that his hearer already knows who JOHN is (either from prior reference to him in earlier conversation or from the fact that he is a mutual friend of theirs) and therefore the information WHO PLAYED TAPS is additional description or explication or truth-statement about JOHN. The syntactic result is a conjunctive relative clause that would be uttered with a pause after JOHN and a lowering of the intonation level of the voice, or that would be transcribed by setting off the conjunctive relative with commas from the rest of the sentence about JOHN.

To summarize, the semantic relationship OBJECT DESCRIPTION OR EXPLICATION results in the following syntactic representations:

(1) two main clauses coordinated by AND, in which the first contains a nominal referent for the OBJECT and the second a pronominal referent for it;

(2) two main clauses coordinated by AND, in which the OBJECT has identical nominal referents in both main clauses;

(3) a conjunctive relative clause attached to its nominal referent in the main clause, with the nominal referent being preceded by an indefinite determiner; and

(4) a conjunctive relative clause set off by commas from its nominal referent in the main clause, with the nominal referent being preceded by a definite determiner.

The semantic relationship OBJECT RESTRICTION results in the restrictive relative clause attached to its nominal referent in the main clause, with the nominal referent always being preceded by a definite determiner.

Let us examine some students' sentences in which the semantic relationship OBJECT DESCRIPTION/EXPLICATION results in unacceptable conjunctive relative clauses. For example, this sentence from a fifth-grade student:

(58) ?I AM LEARNING NEW ENGLISH WHICH HELPS US A LOT FOR OUR SCHOOL YEARS

can either be considered an acceptable restrictive relative, in which case it resulted from the relationship OBJECT RESTRICTION, or as an unacceptable conjunctive relative, in which case it resulted from the relationship OBJECT DESCRIPTION/EXPLICATION. The logical propositions are either (a) or (b) below:

(a) $\exists x$ ($x$: NEW ENGLISH)·(I AM LEARNING $x$)·(HELPS US A LOT FOR OUR SCHOOL YEARS)

(b) $\exists x, y$ ($x$: NEW ENGLISH)·($y$: A LOT OF HELP FOR US FOR OUR SCHOOL YEARS)·(I AM LEARNING $x+y$)

Set (a) asserts that both propositions about NEW ENGLISH are true: it is true that I AM LEARNING NEW ENGLISH, and it is true that NEW ENGLISH HELPS US A LOT FOR OUR SCHOOL YEARS. Set (b) asserts only that the proposition NEW ENGLISH is compatible with the proposition A LOT OF HELP FOR US FOR OUR SCHOOL YEARS and that it is true that ONLY THE NEW ENGLISH WHICH HELPS US A LOT FOR OUR SCHOOL YEARS is what I AM LEARNING. It is further true that the proposition I AM LEARNING THE NEW ENGLISH WHICH HELPS US A LOT FOR OUR SCHOOL YEARS implies that I AM NOT LEARNING SOME OTHER KIND OF NEW ENGLISH, BUT ONLY THAT KIND WHICH HELPS US A LOT FOR OUR SCHOOL YEARS. With no other context than the student's sentence in isolation, it would be difficult to state with any certainty that the relationship involved here is (a), OBJECT DESCRIPTION/EXPLICATION, or (b), OBJECT RESTRICTION. In context however it seems more than likely that the relationship is OBJECT DESCRIPTION/EXPLICATION:

> Dear Pen Pal,
>
> I am nine years old and in the fifth grade . . . , after school I go to my friend's house and help him carry papers, then when I get home I do my homework. In my family there are seven of us and one cat. In our family four of us go to school and one works at a bank. At our school there are about 1,000 children and about 45 in my class. Our school has about 21 very good teachers that help us very much. I am learning New English which helps us a lot for our school years. When school is out for the summer I play baseball.

The student's assignment was to write a letter to a foreign pen pal telling him something about his family, his school and his hobbies. The student seems to have complied with the assignment by writing a series of sentences containing truth-propositions about himself, his family, his school life and his hobbies. The tone of the entire composition is one of relating information; it would be more likely that any relative clauses would be truth-statements, rather than restrictions. While the context above is not absolutely convincing evidence, it does seem more likely that the relative clause WHICH HELPS US A LOT FOR OUR SCHOOL YEARS, like the rest of the sentences, conveys information, description or explication--i.e., asserts a proposition as true--than that it restricts or limits NEW ENGLISH to just that one WHICH HELPS US A LOT FOR OUR SCHOOL YEARS. Although we see no prior reference to NEW ENGLISH that would otherwise identify it, the relative clause itself seems to offer no limitation or identification that would help a foreign pen pal tell one kind of NEW ENGLISH from any other kind. Furthermore, we see no determiner, definite or indefinite, that would give a syntactic clue to the relative clause's restrictiveness or conjunctiveness, although we suspect that the pre-posed adjective NEW has already restricted ENGLISH as a school subject in a way that would identify it as *not* being the usual schoolbook ENGLISH that a foreign pen pal might think it was without this modification NEW. We feel, finally, that WHICH HELPS US A LOT FOR OUR SCHOOL YEARS is a truth-statement about NEW ENGLISH, a further description or explication of the role NEW ENGLISH will play in the student's future, and therefore conclude that sentence (58) involves the semantic relationship OBJECT DESCRIPTION/EXPLICATION, resulting in an unacceptable conjunctive relative clause, which could have been made syntactically clear by either of these sentences:

(58A) I AM LEARNING NEW ENGLISH, WHICH WILL HELP US A LOT FOR OUR SCHOOL YEARS.

(58B) I AM LEARNING NEW ENGLISH, AND IT WILL HELP US A LOT FOR OUR SCHOOL YEARS.

There is another possible semantic relationship that could have resulted in the student's sentence (58)--the relationship indicated by this set of logical propositions: $\exists x$ (x: I AM LEARNING NEW ENGLISH)$\cdot$(x: HELPS US A LOT FOR OUR SCHOOL YEARS). These propositions mean that it is *the student's learning of new English* that will be a benefit in later education, although it is difficult to understand how the learning of *one* student will become a benefit for a *group* of students. The relative clause *does* contain the pronoun US that suggests that whatever is beneficial is going to benefit more than just the student himself. It is more plausible that the content being learned--i.e., NEW ENGLISH--will be beneficial to a *group* of students than will be the *learning* of that content by *one* student. However, it is unsafe to use the student's surface forms as the final arbiter, for that leads to circular reasoning: we are attempting to discover the semantic relationships that resulted in sentence (58) by examining the surface forms into which the student casts these relationships. When these forms are inappropriate, we simply can not assign specific interpretations to ambiguous or unclear sentences. If this last set of logical propositions is one of the possible semantic relationships the student may have had in mind, then the pronoun WHICH has become more than a relative pronoun. It is a sentential pronoun, like THIS or THAT, whose antecedent referent is the entire sentence that precedes it.

Perhaps we can better illustrate the difficulties students create in their use of the relative pronoun WHICH with this ninth-grade student's sentence:

(59) *THE TREES ARE REALLY BIG AND SHADY WHICH HELPS COOL DOWN A HOT DAY.

If the semantic relationship is OBJECT RESTRICTION, which the unpunctuated relative clause and the definite determiner of its antecedent TREES initially suggests to us, then the set of propositions for this relationship:

$$\exists x, y\ (x\text{: TREES})\cdot(y\text{: x HELPS COOL DOWN A HOT DAY})\cdot(x+y\text{: BIG})\cdot(x+y\text{: SHADY})$$

means that ONLY THOSE TREES THAT HELP COOL DOWN A HOT DAY are the ones that are BIG and are the ones that are SHADY. If the semantic relationship is OBJECT DESCRIPTION/EXPLICATION, whose syntactic representation should have included a comma after SHADY, then the set of propositions for this relationship:

$$\exists x\ (x\text{: TREES})\cdot(x\text{: BIG})\cdot(x\text{: SHADY})\cdot(x\text{ HELPS COOL DOWN A HOT DAY})$$

means that the TREES ARE BIG, that the TREES ARE SHADY, and that the TREES HELP COOL DOWN A HOT DAY. We would, however, reject both interpretations, for a more accurate reflection of the relationship between the trees and the events in the real world is this: BIG TREES CAUSE SHADE ON A HOT, SUNNY DAY AND THIS SHADE IN TURN CAUSES THE HOT DAY TO BECOME COOLER FOR ANYONE UNDER OR NEAR THESE SHADE-PRODUCING TREES. In other words, there is a chain of causal events that occur because of the physical size of the TREES, and the set of propositions that illustrate these cause-effect relationships might be this one:

$$\exists x, y\ (x\text{: TREES})\cdot(x\text{: BIG})\cdot(y\text{: x CAUSES SHADE})\cdot(y\text{ CAUSES HOT DAY TO BECOME COOLER})$$

In the student's sentence (59), the AND coordinating BIG, SHADY does not signal the causal relationship between them; neither does the WHICH of the relative clause signal the causal relationship existing between the relative clause and the causal relationships of the main clause. Instead, the student's sentence suggests that both the initial cause (BIGNESS) and effect (SHADE) are really two independent attributes of the OBJECT itself (TREES, or TREES WHICH HELP COOL DOWN A HOT DAY). If it is typical of this student to see cause-effects as merely attributes-of-objects, we cannot really object to his propositions $\exists x$ (x: TREES).(x: BIG).(x: SHADY) or $\exists x, y$ (x: TREES).(x+y: BIG).(x+y: SHADY). What we can help him focus on is his proposition (x HELPS COOL DOWN A HOT DAY), in which the verb HELPS clearly signals that a causal relationship is involved. If this proposition is to be used in the relationship OBJECT RESTRICTION, then perhaps it is the truth-assertion about the OBJECT (TREES) that has been restricted to just those TREES that have the physical attributes BIG, SHADY. If so, the propositions of the OBJECT RESTRICTION relationship are these:

> $\exists x, y$ (x: TREES)·(y: BIG, SHADY)·(x+y CAUSES HOT DAY TO BECOME COOLER)

which would result in this syntactically clear sentence:

> (59A) THE TREES WHICH ARE BIG AND SHADY CAUSE (HELP) A HOT DAY TO COOL DOWN.

If, on the other hand, this proposition (x HELPS COOL DOWN A HOT DAY) is to be used in an OBJECT DESCRIPTION/EXPLICATION relationship, then we must make sure that SHADE is the x in the set of propositions

> $\exists x$ (x: SHADE)·(x: ATTRIBUTE OF BIG TREES)·(x CAUSES HOT DAY TO BECOME COOLER)

that would result in the conjunctive relative clause of this sentence:

> (59B) SHADE, WHICH BIG TREES HAVE, HELPS A HOT DAY TO COOL DOWN

or the coordinated main clauses of this sentence:

> (59C) BIG TREES HAVE SHADE (ARE SHADY), AND THEIR SHADE HELPS A HOT DAY TO COOL DOWN.

If the proposition (x HELPS COOL DOWN A HOT DAY) is to be used in a CAUSAL relationship, then we must be sure that the sentence TREES ARE BIG AND SHADY is the x in this set of propositions:

> $\exists x$ (x: TREES ARE BIG, SHADY)·(x CAUSES HOT DAY TO BECOME COOLER).

We cannot accept WHICH as a sentential pronoun in any resulting syntactic representation of this set of CAUSAL propositions--i.e., the student's sentence (59) is not the acceptable representation, since WHICH would have to have the entire sentence preceding it as its antecedent referent--a function that WHICH does not have in relative clauses. We would need some REIFICATION (nominalization) of TREES ARE BIG, SHADY that could fill the syntactic NP-slot occupied by x in the proposition x CAUSES HOT DAY TO BECOME COOLER. The nominalization form we would suggest here is the gerundive-clause THE TREES' BEING BIG AND SHADY, so that the CAUSAL relationship could be made syntactically clear in this sentence:

(59D) THE TREES' BEING BIG AND SHADY HELPS TO COOL COWN A HOT DAY.

That students do use WHICH as a sentential pronoun can be illustrated with the following sentences from their writing. There seems, for example, to be only one way to posit the set of propositions that result in this seventh-grade student's sentence:

(60) *THEN I REMEMBER THAT AT 12:30 TOMORROW I AM GOING TO GO BLIND WHICH CHANGES MY ATTITUDE TOWARD THINGS

and that way requires the WHICH to stand for a sentential antecedent:

$\exists$x (x: I AM GOING BLIND AT 12:30 TOMORROW)·(I REMEMBER x)·(x CHANGES MY ATTITUDE TOWARD THINGS).

This seventh grader's sentence:

(61) *AFTER THAT I WOULD THEN EXPLORE THE SCHOOL, WHICH I NEVER DID BEFORE

requires a similar set of propositions:

$\exists$x (x: I WOULD EXPLORE THE SCHOOL)·(x: NEVER DONE BEFORE)

in which the WHICH of the student's relative clause is the pronoun for the sentential antecedent I WOULD EXPLORE THE SCHOOL. Another seventh grader's sentence reveals this sentential WHICH:

(62) *I FAINTED AND BUMPED MY HEAD WHICH CAUSED A SLIGHT CASE OF AMNESIA

in the set of propositions that produced it:

$\exists$x, y (x: I FAINTED)·(y: I BUMPED MY HEAD)·(x+y CAUSED A SLIGHT CASE OF AMNESIA).

The only difference between this sentence and the preceding ones is that WHICH stands for two sentential antecedents: I FAINTED and I BUMPED MY HEAD. Still another sentence is this one by a ninth grader:

(63) *AND THEN IN THE FALL WE GO BACK TO SCHOOL BUT ABOUT A WEEK OR TWO BEFORE SCHOOL STARTS WE GET ABOUT TWELVE OF US AND WE GO SHOPPING OVER AT NORTHLAND WHICH IS A RIOT

whose set of propositions:

∃x, y, z (x: WE GO BACK TO SCHOOL IN THE FALL)·(y: WE GET ABOUT TWELVE OF US TOGETHER ABOUT A WEEK OR TWO BEFORE SCHOOL STARTS)·(z: WE GO SHOPPING OVER AT NORTHLAND)·(x∨y∨z: A RIOT)

differs from the others only in that it is not clear which of the three preceding sententials is the antecedent of WHICH; in fact, it may be all three of them! In each of these five sentences, it seems clear that the student is employing WHICH as a sentential pronoun whose antecedent is one or more of the sententials preceding it.

Is it appropriate to use WHICH as a sentential pronoun--i.e., to expand its function as a relative pronoun whose antecedent is an NP in the preceding sentential to a pronoun whose antecedent is the entire sentential itself? Is it appropriate to extend the range of the antecedent of WHICH from NP's that are nouns to NP's that are sentences? Perhaps the question could be answered affirmatively if there were no other way to syntactically represent the reference to a sentence (EVENT) in a comment upon that sentence (EVENT). However, there are syntactic ways of representing EVENTS-commented-upon in English: as noun-clauses if the sentence represents facts or details about an EVENT that has occurred in the world; as gerundive-clauses if the sentence represents the occurrence of an EVENT co-temporaneous with the comment upon it; as infinitive-clauses if the EVENT-commented-upon has yet to happen. We have already illustrated above how a sentential can be nominalized to produce sentence (59D). The nominalization of the sentential x in the set of propositions producing sentence (60) would result in, first, a noun clause to be inserted after REMEMBER and then a gerundive-clause to be inserted before CHANGES, so that the relationships of this proposition set could have been made syntactically clear by this sentence:

(60A) I REMEMBER THAT I AM GOING TO GO BLIND AT 12:30 TOMORROW, AND MY GOING BLIND TOMORROW CHANGES MY ATTITUDE TOWARD THINGS.

Also, the sententials x and y in the set of propositions underlying sentence (62) could be nominalized into gerundive-clauses so that the relationships of this proposition set would be syntactically clear by this sentence:

(62A) I FAINTED AND BUMPED MY HEAD, AND MY FAINTING AND BUMPING MY HEAD CAUSED A SLIGHT CASE OF AMNESIA.

Finally, depending on which sentential is chosen to be nominalized and inserted before IS A RIOT in the set of propositions underlying sentence (63), we can produce the following sentences with gerundive-clauses:

(63A) WE GO BACK TO SCHOOL IN THE FALL, BUT ABOUT A WEEK OR TWO BEFORE SCHOOL STARTS WE GET ABOUT TWELVE OF US TOGETHER AND WE GO SHOPPING OVER AT NORTHLAND; OUR GOING SHOPPING THERE IS A RIOT.

(63B) WE GO BACK TO SCHOOL IN THE FALL, BUT ABOUT A WEEK OR TWO BEFORE SCHOOL STARTS WE GET ABOUT TWELVE OF US TOGETHER AND WE GO SHOPPING OVER AT NORTHLAND; OUR GETTING TOGETHER IS A RIOT.

(63C) WE GO BACK TO SCHOOL IN THE FALL, BUT ABOUT A WEEK OR TWO BEFORE SCHOOL STARTS WE GET ABOUT TWELVE OF US TOGETHER AND WE GO SHOPPING OVER AT NORTHLAND; OUR GOING BACK TO SCHOOL IN THE FALL IS A RIOT.

(63D) WE GO BACK TO SCHOOL IN THE FALL, BUT ABOUT A WEEK OR TWO BEFORE SCHOOL STARTS WE GET ABOUT TWELVE OF US TOGETHER AND WE GO SHOPPING OVER AT NORTHLAND; OUR GETTING TOGETHER AND GOING SHOPPING OVER AT NORTHLAND A WEEK OR TWO BEFORE WE GO BACK TO SCHOOL IN THE FALL IS A RIOT.

Since there are appropriate ways of representing syntactically EVENTS-TO-BE-COMMENTED-UPON as REIFIED (nominalized) sententials, it seems inappropriate to use the relative pronoun WHICH for this function. Sentential pronouns like THIS and THAT are used by some adult writers in lieu of REIFIED sententials; others use THIS CASE, WHICH SITUATION, THAT CONDITION, THIS STATE OF EVENTS, WHICH EVENTS, . . . , in which a noun (preceded by demonstrative or relative determiners) that reflects the nature of the preceding sentence takes the place of the REIFIED form of that sentence.

This seventh-grade student's sentence:

(64) *THE SCHOOL IS ABOUT FIVE BLOCKS FROM THE HOSPITAL WHICH MAKES YOUR HOUSE ABOUT SEVEN BLOCKS FROM IT

can be seen as the inappropriate use of a sentential WHICH instead of some kind of restriction relationship such as REAL EVENT-CONSEQUENCE, for the set of propositions that underlie sentence (64) seems to be this one:

$$\exists x, y, z\ (x\text{: SCHOOL})\cdot(y\text{: HOSPITAL})\cdot(z\text{: YOUR HOUSE})\cdot(x\text{: FIVE BLOCKS FROM } y)\cdot(x\text{: SEVEN BLOCKS FROM } x \vee y).$$

Depending on whether YOUR HOUSE is two blocks from THE SCHOOL or two blocks from THE HOSPITAL (since the student's final pronoun IT is ambiguous), we can produce the following sentences which make the relationship of relative distances syntactically clearer than the student's sentence:

(64A) THE SCHOOL IS ABOUT FIVE BLOCKS FROM THE HOSPITAL; THEREFORE, YOUR HOUSE IS ABOUT SEVEN BLOCKS FROM THE SCHOOL.

(64B) THE SCHOOL IS ABOUT FIVE BLOCKS FROM THE HOSPITAL; THEREFORE, YOUR HOUSE IS ABOUT SEVEN BLOCKS FROM THE HOSPITAL.

The THEREFORE preceding the CONCLUSION-statement in both these sentences is a clear syntactic signal of the REAL EVENT-CONSEQUENCE relationship existing between the first clause and the second; WHICH cannot signal this relationship and therefore is clearly inappropriate in sentence (64). Similarly, we can see that the proposition set underlying sentence (61) above illustrates a restrictive semantic relationship, EXPLANATION/MOTIVATION, which could have been made syntactically clear by this sentence:

(61A) AFTER THAT I WOULD THEN EXPLORE THE SCHOOL, BECAUSE I HAVE NEVER DONE THAT BEFORE!

There are sentences produced by students in which the conjunctive relative clause appears at first glance to be the appropriate syntactic product of an OBJECT EXPLICATION/DESCRIPTION relationship. For example, this seventh-grade student's sentence:

(65) ?HE OWNS A BOWLING ALLEY, WHICH IS A GOOD INVESTMENT

seems to be the appropriate representation of this set of OBJECT DESCRIPTION/EXPLICATION propositions:

$$\exists x\ (x\text{: BOWLING ALLEY})\cdot(\text{HE OWNS } x)\cdot(x\text{: A GOOD INVESTMENT})$$

in which both propositions about the BOWLING ALLEY seem to be truth-assertion statements. If, however, the WHICH is the sentential pronoun whose antecedent is the entire proposition (HE OWNS $x$), then the student means something like HIS OWNING A BOWLING ALLEY, or HIS OWNERSHIP OF THIS BOWLING ALLEY for which relationship the set of propositions would be this:

$$\exists x\ (x\text{: HE OWNS A BOWLING ALLEY})\cdot(x\text{: A GOOD INVESTMENT}).$$

Quite possibly the development of the student's linguistic skills has not paralleled the development of his cognitive ability to move from a report of the concrete OBJECTS, ACTIONS, and EVENTS in his world to an abstract conceptualization of them. He might be able to conceptualize such an abstraction as HIS OWNERSHIP OF THIS BOWLING ALLEY, but be deficient in his knowledge of linguistic devices with which to express it. If he has not yet mastered the distinction between the representation of subordinate ideas in relative clauses and the representation of abstractions of EVENTS (commentary upon EVENTS) in nominalizations, then he is unlikely to express abstractions in syntactic representations conventionally. Quite likely, he will use whatever linguistic devices he already has command of until he becomes aware of and masters those nominalizing and subordinating devices that express the *precise* relationships he has in mind.

There are some clues that this particular student has command of *some* of the abstraction (nominalization) devices available in English. He appears to know how to express syntactically the abstract idea of POSSESSION OF CONCRETE OBJECTS, for having an object in one's possession is more abstract than picking it up, handling it, throwing it about, or carrying it from one place to another. Physical possession of a CONCRETE OBJECT can be abstracted to a statement about the ACTION OF ITS POSSESSION, and this relationship of OWNING SOMETHING CONCRETE can be expressed in such verbs as POSSESSING, HAVING, OWNING. This level of abstraction is one that the student expresses in the verb OWNS in HE OWNS A BOWLING ALLEY.

It is another level of abstraction to be able to REIFY the abstract ACTION of OWNING SOMETHING CONCRETE into a *thing-to-be-thought-about*, a *fact-to-be-commented-upon*. This REIFICATION process is more abstract than reporting the ACTION OF OWNING SOMETHING CONCRETE, which itself is more abstract than reporting the physical holding and manipulating of it. The syntactic representation of the REIFICATION of activities is nominalization: the conversion of the sentential HE OWNS A BOWLING ALLEY into the gerundive-clause HIS OWNING A BOWLING ALLEY or HIS OWNERSHIP OF A BOWLING ALLEY. Once REIFICATION of an ACTION or EVENT takes place in the mind, the REIFIED fact itself becomes the source for additional activities and relationships. With each succeeding level of abstraction, the student has more powerful means of creating and discovering other relationships that exist between things and activities in his world--both concrete and abstract.

There is some evidence that this student may have reached this REIFICATION level of thinking, for in his relative clause (WHICH IS A GOOD INVESTMENT) is the nominalization of the activity of INVESTING MONEY IN PROPERTY OR REAL ESTATE (itself an abstract activity) into the gerund INVESTMENT. He seems able to think about the ACTION of investing money in real estate as a thing-to-be-commented-upon, i.e., a REIFIED fact. Indeed, he does comment upon it: he judges it to be GOOD. There are several syntactic devices available in English for representing such a REIFICATION, and one of them is the nominalization of the verbal element of the activity into a gerund. There are several suffixes that nominalize verb forms into gerunds in English: -TION, -MENT, -ING, and -SHIP. There are at least two other syntactic representations of REIFICATION: the infinitive-clause and the gerundive-clause. Thus, he could have produced any of the three following nominalizations of the REIFICATION of HE INVESTS MONEY IN REAL ESTATE: HIS INVESTMENT OF MONEY IN REAL ESTATE, HIS INVESTING MONEY IN REAL ESTATE, or FOR HIM TO INVEST MONEY IN REAL ESTATE. Each nominalization would have allowed him to comment upon the REIFICATION--namely, to judge it as GOOD--as any of these sentences make syntactically clear:

(65A) HIS INVESTMENT OF MONEY IN REAL ESTATE IS GOOD.

(65B) HIS INVESTING MONEY IN REAL ESTATE IS GOOD.

(65C) FOR HIM TO INVEST MONEY IN REAL ESTATE IS GOOD.

Is it mere accident that this student's REIFICATION is syntactically represented as a gerund, rather than the gerundive-clause or the infinitival-clause? Does he know of all three syntactic representations and therefore merely exercise his stylistic preference for the gerund? Or is it that the gerundive-clause and the infinitival-clause have not yet come to his attention? Or if they have come to his attention, has he such imperfect control of them that he avoids them as long as he has a syntactic alternative available? It may be that REIFICATION that results in gerundives and infinitivals represents a level of abstract thinking that is beyond this student's capacity at this point in his maturation. On the other hand, REIFICATION may not be beyond his level of thinking, but it may be beyond his knowledge or control of all of the corresponding syntactic representations to express REIFICATION relationships as gerundives or infinitivals. If the latter, then perhaps the only way this student can REIFY HE INVESTS MONEY is in the gerund INVESTMENT.

Even if we assume that the student has *some* command of the syntactic representation of REIFICATION relationships, as evidenced by his gerund INVESTMENT in the relative clause of sentence (65), do we know whether the pronoun WHICH is an acceptable relative pronoun or an unacceptable sentential pronoun? We are really asking the question: which set of propositions represents the relationship between the ideas, presented in the content of the student's sentence? Is it the set representing the OBJECT DESCRIPTION/EXPLICATION relationship:

$$\exists x\ (x\text{: BOWLING ALLEY})\cdot(\text{HE OWNS } x)\cdot(x\text{: A GOOD INVESTMENT})?$$

or is it the set representing the REIFICATION relationship:

$$\exists x\ (x\text{: HE OWNS A BOWLING ALLEY})\cdot(x\text{: A GOOD INVESTMENT})?$$

From what we know of the activity of INVESTING MONEY IN REAL ESTATE, we know that the only *x* that it could be said of that it is A GOOD INVESTMENT is the sentential *x* of the REIFICATION relationship set. A CONCRETE OBJECT, like *x* in the OBJECT EXPLICATION/DESCRIPTION set, can *not* be an ABSTRACTION, a REIFICATION, that is called for by the REIFICATION *x*, A GOOD INVESTMENT. Therefore, we find the WHICH in sentence (65) an unacceptable sentential pronoun, for this is not one of the syntactic alternatives available in English to represent REIFICATION relationships. The conflict between syntactic form and semantic content in the student's original sentence cannot be resolved in his favor: the syntactic form is the conjunctive relative clause, which is the representation of the semantic relationship OBJECT DESCRIPTION/EXPLICATION; yet the semantic content of the relative clause suggests that the semantic relationship is REIFICATION, which so far as we can determine at this point can not utilize as one of its syntactic signals the relative pronoun WHICH.

We are aware of the frequency with which the relative pronoun WHICH is used by newspaper and magazine writers as a sentential pronoun like THIS and THAT. We may now be in the transition period between the consideration of the sentential WHICH as always unacceptable and the consideration of it as always acceptable. It may turn out that some "compromise" will evolve: certain uses of the sentential WHICH will be accepted, and certain will be rejected. It would be interesting to know whether grammarians of the future will accept or reject a sentence like this one: ?HIS SKIN IS A DEEP COPPERY COLOR, WHICH WOULD MAKE OTHER BOYS ENVIOUS . . . . We cannot determine whether WHICH refers to the DEEP COPPERY COLOR, or whether it refers to the entire clause HIS SKIN IS A DEEP COPPERY COLOR. If the former, then WHICH is an acceptable relative pronoun; if the latter, it is an unacceptable sentential pronoun.

If there are some sentences that students write that are not clearly acceptable or clearly unacceptable in their production of the conjunctive relative clause, there are others that are clearly unacceptable. For example, this sixth-grade student's sentence:

(66) *HE IS A SWITCH BATTER ABOUT SIX FOOT TALL WEIGHS ABOUT 210 POUNDS OF MUSCLE WHICH CAN REALLY HIT A BASEBALL NOT TO MENTION HIS FIELDING

contains many objectionable surface representations of semantic relationships. One of these is the unacceptable relative clause WHICH CAN REALLY HIT A BASEBALL. It cannot be considered acceptable either as a conjunctive relative or a restrictive relative, for the proposition sets that would produce each relative cannot be accepted. If the relationship is OBJECT RESTRICTION, then the proposition set would be this one:

$\exists$x, y (x: WEIGHS 210 POUNDS OF MUSCLE)·(y: MUSCLE CAN REALLY HIT A BASEBALL)·(x+y: ???)

in which no truth-assertion is made at all about the compatibility of propositions $x$ and $y$, unless it is (x+y: NOT MENTION HIS FIELDING)! Such a compatibility of propositions would automatically suggest the restriction of MUSCLE to ONLY THAT MUSCLE WHICH COULD HIT A BASEBALL--a very strange restriction indeed! Therefore, the relationship does not seem to be OBJECT RESTRICTION. If the relationship is OBJECT DESCRIPTION/EXPLICATION, then the proposition set would be this one:

$\exists$x (x: A SWITCH HITTER ABOUT SIX FOOT TALL)·(x: WEIGHS ABOUT 210 POUNDS OF y)·(y: MUSCLE CAN REALLY HIT A BASEBALL)

which contains propositions introducing an OBJECT $y$ other than the OBJECT $x$ being described or explicated--a very strange kind of OBJECT DESCRIPTION/EXPLICATION indeed that describes or explicates two entirely different OBJECTS at once! Therefore, the relationship seems not to be OBJECT DESCRIPTION/EXPLICATION. If this last proposition set had included the same information but presented slightly differently, for instance, like this:

$\exists$x (x: SWITCH HITTER ABOUT SIX FOOT TALL)·(x: WEIGHS ABOUT 210 POUNDS)·(x: REALLY CAN HIT A BASEBALL),

then the relationship can be seen as OBJECT DESCRIPTION/EXPLICATION, which would have been syntactically clear in this sentence:

(66A) HE IS A SWITCH BATTER ABOUT SIX FOOT TALL, WHO WEIGHS ABOUT 210 POUNDS, AND WHO CAN REALLY HIT A BASEBALL.

Student sentences containing inappropriate conjunctive relative clauses are more frequent than those containing two main clauses in which the second contains either a pronominal reference to an NP in the first or the same NP is repeated in both clauses. We speculate that this may be so because coordination is an earlier stage in the shift from parataxis to hypotaxis than is the relative clause, and therefore students in the junior high school have probably mastered the coordination technique of expressing the OBJECT DESCRIPTION/EXPLICATION relationship. However, they do on occasion have some difficulties with coordination, for example, this sixth grader's sentence:

(67) *MY DAD IS A VERY HONEST MAN AND WHENEVER HE SEES SOMEONE IN TROUBLE EVEN IF IT IS A LITTLE THING HE WILL HELP THEM OUT.

When we look at the semantic content of each main clause, we discover that the second clause does not EXPLICATE or DESCRIBE in any way the OBJECT A VERY HONEST MAN. Helping someone out who is in trouble is more an example of "good Samaritanship" than it is an example of honesty, and is therefore more likely an example of an ENUMERATION relationship than an OBJECT DESCRIPTION/EXPLICATION one. This ENUMERATION relationship would be syntactically clear in this sentence:

(67A) MY DAD IS A VERY HONEST MAN AND ALSO WHENEVER HE SEES SOMEONE IN TROUBLE EVEN IF IT IS A LITTLE THING HE WILL HELP HIM OUT.

Before leaving our discussion of OBJECT DESCRIPTION/EXPLICATION relationships, we want to explore the possibility that some conjunctive relative clauses mean more than just OBJECT DESCRIPTION/EXPLICATION. For example, in this sixth grader's sentence:

(68) MANY PEOPLE WERE SADDENED BY KENNEDY'S ASSASSINATION, EVEN THE NEGROES, WHO HAD HOPES THAT HE WOULD HELP THEM

the conjunctive relative clause WHO HAD HOPES THAT HE WOULD HELP THEM not only explicates or describes the OBJECT THE NEGROES, but also seems to explain the reason why especially (=EVEN) the Negroes were saddened by Kennedy's assassination. In this eleventh grader's sentence:

(69) IN THIS CASE THEY WILL EITHER GO AHEAD MAKING THE WRONG DECISION, OFTEN RESULTING IN A LACK OF SELF-CONFIDENCE, OR THEY WILL BECOME FLUSTERED UNDER TOO MUCH PRESSURE

the reduced conjunctive relative (OFTEN RESULTING IN A LACK OF SELF-CONFIDENCE)* not only explicates (describes) the OBJECT THE WRONG DECISION, but also seems to explain what the result would be of having made this wrong decision. This also seems to be true of the restrictive relative in this sentence: AT THE AGE OF FOURTEEN ON CHRISTMAS HE RECEIVED A $22 GLOVE . . . AND IT COST A LOT FOR A MAN WHO ONLY EARNED $75 A WEEK. The restrictive relative (WHO ONLY EARNED $75 A WEEK) not only restricts and identifies A MAN as a particular man, but seems also to explain why $22 was a lot of money to pay for a baseball glove. These three examples come from grade levels so far apart in age and maturity that we cannot speculate that this phenomenon could be found at a particular stage in children's linguistic development. Perhaps the principle involved here is more general than we might expect: the use of one syntactic structure to represent two (or more) semantic relationships simultaneously.

Enumeration of referents.--We have referred before to the semantic relationship ENUMERATION OF REFERENTS as a much looser semantic relationship than CATEGORY EXPANSION. Although both involve the listing of elements that somehow "belong together," they are linked together, we feel, by quite different organizing principles. CATEGORY EXPANSION assumes the existence of some general CATEGORY REFERENT (OBJECT, ACTION, EVENT) which is subsequently differentiated into several specific examples that are coordinated by AND in the syntactic representation of the differentiation. ENUMERATION OF REFERENTS refers to the simple addition of OBJECTS, ACTIONS, or EVENTS into a lateral chain or series of REFERENTS that are suggested by the original REFERENT. The syntactic result of this relationship is a linear sequence of NP's, VP's, or S's whose coordinating connectives include AND ALSO, AND TOO, NOT ONLY . . . BUT ALSO, IN ADDITION, BESIDES, FURTHERMORE, MOREOVER, ON TOP OF THAT, NOT ONLY THAT (BUT) . . . TOO.

One of the most common difficulties that students have with ENUMERATION relationships is their syntactic representation of them as VP coordination, so that CATEGORY EXPANSION is suggested as the semantic relationship underlying VP AND VP. In addition to representing ENUMERATION syntactically using CATEGORY EXPANSION connective AND, students occasionally create interpretation difficulties with the ENUMERATION connectives. For example, this seventh grader's sentence:

(70) *JERRY AND JEFF GO THERE AND YOU CAN MEET THEM, ALSO DONALD

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*This conjunctive relative is a reduced form of WHICH OFTEN RESULTS IN A LACK OF SELF-CONFIDENCE.

contains one of the ENUMERATION relationship signals ALSO, but it is not clear whether the NP DONALD should be added to THEM or JERRY AND JEFF. Does the student mean that in addition to JEFF AND JERRY, DONALD also goes there, or does he mean that in addition to meeting JERRY AND JEFF there, you can also meet DONALD? Or does he mean that in addition to meeting THEM, you can meet DONALD also, but that DONALD is not necessarily THERE where JEFF AND JERRY are? Precisely what REFERENT the REFERENT DONALD is being added to could have been syntactically clear in these sentences:

(70A) JERRY AND JEFF, (AND) ALSO DONALD, GO THERE AND YOU CAN MEET THEM.

(70B) JERRY AND JEFF GO THERE AND YOU CAN MEET THEM, IN ADDITION TO DONALD, WHO WORKS THERE.

In this seventh grader's sentence:

(71) *HERE ARE SOME THINGS I DO: PLAY ALL SORTS OF SPORTS AND GAMES, I ALSO GO TO FAIRS AND CARNIVALS

a CATEGORY EXPANSION has been explicitly announced in HERE ARE SOME THINGS I DO but has not resulted in a coordination of ACTIONS (VP's) or EVENTS (S's). Instead, the student has expanded his category into only one example (PLAY ALL SORTS OF SPORTS AND GAMES) and has tacked on another in an additive coordination (I ALSO GO TO FAIRS AND CARNIVALS). Since the student has explicitly announced his category, then the relationship of CATEGORY EXPANSION should have prevailed throughout the student's sentence, and the ENUMERATION relationship should have been postponed until the coordination set of category members had been completed. A syntactically clear representation of CATEGORY EXPANSION without the distracting ENUMERATION signal ALSO is this sentence:

(71A) HERE ARE SOME THINGS I DO: PLAY ALL SORTS OF SPORTS AND GAMES AND GO TO FAIRS AND CARNIVALS.

It may be true, of course, that the CATEGORY EXPANSION was completed in PLAY ALL SORTS OF SPORTS AND GAMES, in which the coordination of SPORTS, GAMES completed the list of THINGS I DO. Perhaps it was this expansion set that suggested something additional to the student that could be linked to this CATEGORY EXPANSION; therefore, the ALSO signal may have been appropriate for the representation of this idea (I GO TO FAIRS AND CARNIVALS) and its relationship to the completed expansion set (ALSO). If so, this set of relationships would have been syntactically clearer in either of these sentences:

(71B) HERE ARE SOME THINGS I DO: PLAY ALL SORTS OF SPORTS AND GAMES. I ALSO GO TO FAIRS AND CARNIVALS.

(71C) HERE ARE SOME THINGS I DO: PLAY ALL SORTS OF SPORTS AND GAMES; I ALSO GO TO FAIRS AND CARNIVALS.

There are other student sentences in which there is a syntactic connective signalling an ENUMERATION relationship but whose content, upon close examination, suggests that the relationship is something other than ENUMERATION. For instance, this sixth grader's sentence:

(72) *IN ADDITION TO BEING INVOLVED IN SPORTS HE IS VERY POLITE AND HAS A GREAT SENSE OF HUMOR

suggests that POLITENESS and HAVING A SENSE OF HUMOR are additional activities that someone can be involved in, whereas they are characteristics or personality traits someone might possess. Either the additive REFERENT should have been a personality characteristic or the added-to REFERENTS should have been activities; therefore, the ENUMERATION relationship could have been syntactically clearer by either of these sentences:

(72A) IN ADDITION TO BEING SYMPATHETIC, HE IS VERY POLITE AND HAS A GREAT SENSE OF HUMOR.

(72B) IN ADDITION TO BEING INVOLVED IN SPORTS, HE IS INVOLVED IN DRAMATICS AND DEBATING.

In this fifth grader's sentence:

(73) *IT'S NICE TO WAKE UP ON A HOT SUMMER DAY AND KNOW YOU DON'T HAVE TO GO TO SCHOOL TOO

the TOO is clearly the signal for an ENUMERATION relationship, and yet the content of the student's sentence suggests some other relationship. It is possible that the student means that in addition to its being nice to wake up on a hot summer day, it is also nice to know that you don't have to go to school. The TOO might also suggest that in addition to knowing you don't have to go to school, you don't have to go somewhere else (like the supermarket, the library, or the barber shop). However, the content of the next sentence does not provide the "somewhere else" that might have been inappropriately detached from sentence (73). It is more likely, though, that what is nice is one ACTION: WAKING UP ON A HOT SUMMER DAY WITH THE KNOWLEDGE THAT YOU DON'T HAVE TO GO TO SCHOOL. This relationship is probably CO-TEMPORANEITY which would be syntactically clear in this sentence:

(73A) IT'S NICE TO WAKE UP ON A HOT SUMMER DAY KNOWING YOU DON'T HAVE TO GO TO SCHOOL.

In this sentence, written by a seventh grader:

(74) *JUST AS IN YOUR COUNTRY BEING TOGETHER AS A FAMILY IS IMPORTANT TO US ALSO

the ALSO seems inappropriate after the JUST AS IN YOUR COUNTRY phrase at the beginning of the sentence. A sentence like JUST AS IN YOUR COUNTRY BEING TOGETHER AS A FAMILY IS IMPORTANT means that JUST AS BEING TOGETHER AS A FAMILY IS CONSIDERED IMPORTANT IN YOUR COUNTRY, IT IS CONSIDERED IMPORTANT TO US--in other words, a relationship of COMPARISON is syntactically represented in JUST AS IN YOUR COUNTRY. A sentence like BEING TOGETHER AS A FAMILY IS IMPORTANT TO US ALSO means that IN ADDITION TO BEING IMPORTANT TO SOMEONE ELSE, BEING TOGETHER AS A FAMILY IS IMPORTANT TO US, and this syntactic representation of an ENUMERATION relationship seems in conflict with the COMPARISON relationship already suggested by JUST AS IN YOUR COUNTRY. Both relationships cannot be present in this sentence, and if the COMPARISON relationship were to be used, its syntactic representation would be this sentence:

(74A) JUST AS IN YOUR COUNTRY, BEING TOGETHER AS A FAMILY IS IMPORTANT IN OURS

and if the ENUMERATION relationship were to be used, its syntactic representation would be this sentence:

(74B) BEING TOGETHER AS A FAMILY IS IMPORTANT TO US, AS WELL AS IT IS TO YOU.

The conflict of relationships can be resolved, it seems to us, only by producing two separate sentences, only one of which can be utilized in the context of the student's essay.

Temporal sequence of actions/events.--One of the ways in which several ACTIONS or several EVENTS can be related to each other is temporal: one ACTION or EVENT occurs earlier or later than another. This semantic relationship, TEMPORAL SEQUENCE OF ACTIONS/EVENTS, is syntactically represented as either two VP's (ACTIONS) or two S's (EVENTS) linked together by one of these temporal connectives: AND THEN, AND NOW, AND STILL, AND AGAIN. Most of the students in this project had little or no difficulty syntactically representing this relationship. Sentences like (75) were the rule rather than the exception among students' sentences syntactically registering TEMPORAL SEQUENCE relationships:

(75) AFTERWARD THE CHILDREN HELP THEIR MOTHER WITH THE DISHES AND THEN GO OUTSIDE TO PLAY

A sentence like this:

(76) *THEN WE GET READY FOR FOOTBALL PRACTICE THEN WE GO TO THE FOOTBALL PRACTICE TOGETHER

illustrates both the usual syntactic record of this relationship (THEN WE GET READY FOR FOOTBALL PRACTICE) and the only difficulty we have found that project students have with this relationship: the failure to place some mark of punctuation before the second THEN, either a semicolon or a period. While THEN, NOW, STILL and AGAIN are the usual time phrases in the TEMPORAL SEQUENCE connective, it is true that other, more specific time phrases sometimes occupy the time phrase slot of this connective. For example, the ON THE ELECTION DAY of this sentence:

(77) *AND THEN HE STUDIED TO BE THE PRESIDENT HE WORKED HARD AND TRIED SILENTLY TO RUN FOR PRESIDENT AND ON THE ELECTION DAY HE WAS ELECTED PRESIDENT OF THE UNITED STATES

has the same function as AND THEN; likewise, the FINALLY in this sentence:

(78) MORE PEOPLE STARTED TO TAKE AN INTEREST IN ME AND FINALLY MY PRESTIGE BUILT UP GRADUALLY . . .

has the same function as AND THEN.

Before leaving this relationship and its syntactic signals, we want to point out that THEN is not always a signal for TEMPORAL SEQUENCE relationships. It is frequently the signal for the next item in a series that syntactically represents ENUMERATION relationships. For example, sentences like these:

(79) THEN THERE ARE PEOPLE WHO DON'T HAVE TELEVISION TO WATCH . . .

(80) AND THEN THERE ARE SOME FAMILIES WHO ARE LIKE YOU . . .

are successive sentence in a student's essay in which he was describing the kinds of families there are in the United States, and therefore, the AND THEN's are not signaling a temporal relationship but a seriation relationship. In one set of essays written by the eighth graders in the project, the announced topic on which they were to write was the explanation of the money system in the United States to an English pen pal. This topic produced student paragraphs which were one lengthy CATEGORY EXPANSION of what the coin system (or bill system) consists of. For example, this paragraph:

> OUR MONEY IS NOT REALLY HARD TO UNDERSTAND. FIRST WE HAVE THE PENNY . . . . THEN WE HAVE THE NICKEL . . . . THEN WE HAVE THE DIME . . . . THEN WE HAVE A QUARTER, WHICH IS WORTH 25 PENNIES, 5 NICKELS, OR 2½ DIMES . . . . THEN WE HAVE THE DOLLAR, WHICH IS USUALLY IN A BILL . . . .

contains the CATEGORY EXPANSION of OUR MONEY into several successive sentences, each of which identifies a member of the set of coins (and bills) that make up the American money system. The use of THEN as the intersentential connective for each set of the CATEGORY EXPANSION illustrates that the content of the sentences themselves determines whether the semantic relationship involved is TEMPORAL SEQUENCE or some other relationship like ENUMERATION or CATEGORY EXPANSION.

Contrast/opposition.--The syntactic representations of the four preceding conjunctive semantic relationships result in what H. Poutsma describes as copulative coordination, i.e., when the second clause is an extension of the first. The next two conjunctive semantic relationships that we are going to explore result in what he describes as adversative coordination, i.e., when one clause is opposed in some way to the first (8). The first of these adversative coordinations we will investigate results from the semantic relationship CONTRAST/OPPOSITION, in which (1) two ideas are contrasted, i.e., their striking and noticeable differences from each other are the focal point of the relationship existing between them in the speaker's mind; (2) one idea contradicts the other, and the denied idea is replaced by the other; or (3) the second idea is the opposite of the consequence or conclusion expected from the first (8). The contrastive relationship results in what Poutsma describes as contrasting adversative coordination (8), whose syntactic connectives include BUT, BUT AGAIN, and ON THE OTHER HAND, as in these student sentences:

(81) I THINK ASKING ANOTHER STUDENT TO HELP HIM WITH HIS DUTIES MIGHT HELP, BUT AGAIN (ON THE OTHER HAND) IT MIGHT NOT . . . .

(82) IF YOU ARE IN MY CLASS YOU'LL HAVE MR. LEAHY FOR HOME ROOM . . . BUT (ON THE OTHER HAND) IF YOU DON'T GET INTO MY CLASS YOU'LL HAVE SISTER PAUL MARIE . . . .

(83) OTHER FAMILIES EAT TOGETHER EVERY DAY, BUT (ON THE OTHER HAND) WE'RE DIFFERENT.

The contradiction relationship results in what he describes as substitutive adversative coordination ( 8 ), whose syntactic connectives include NOT . . . BUT, RATHER (THAN), INSTEAD (OF), and IN LIEU OF, as in these student sentences:

(84) RATHER THAN KEEP THE FAMILY WAITING THEY GO AHEAD AND EAT AND LET THE BOYS EAT WHEN THEY COME HOME.

(85) HE WAS ELECTED BECAUSE HE WAS POPULAR, NOT BECAUSE HE WOULD BE EFFICIENT.

(86) MUSIC AND ART WE HAVE EVERY OTHER WEEK; IT MAKES THINGS MORE INTERESTING INSTEAD OF BORING THAT WAY.

(87) SOMETIMES INSTEAD OF WATCHING TELEVISION WE TALK OR PLAY GAMES.

The opposition relationship results in what he describes as arrestive adversative coordination ( 8 ), whose syntactic connectives include HOWEVER, NEVERTHELESS, NOTWITHSTANDING, STILL, THOUGH, YET, ONLY, FOR ALL THAT, AFTER ALL, ALL THE SAME, JUST THE SAME, MEANWHILE, IN THE MEANTIME, ALBEIT, and AT THE SAME TIME, as in these student sentences:

(88) HE IS VERY TALL BUT (YET) NOT CLUMSY FOR HIS SIZE.

(89) SANDY IS NOT TOO GOOD OF A BATTER BUT (HOWEVER) I STILL LIKE HIM.

(90) OUR FAMILY TRIES TO EAT AT THE SAME TIME BUT (=ONLY) SOME PEOPLE'S MOM AND DAD HAVE TO WORK LATE BECAUSE OF THEIR JOBS . . . .

(91) IT IS TRUE THAT IN AMERICA WE WATCH TELEVISION AND GO TO PARTIES, BUT (=THOUGH) WE STILL HAVE TIME TO BE . . . TOGETHER.

However, from Poutsma's very definition of arrestive adversative coordination--namely, that the second clause is the opposite of the consequence or conclusion one is led to expect from the first clause--it is clear that these clauses should be considered as one of the syntactic representations of restrictive CONCESSION relationships. Therefore, we will postpone any further discussion of those arrestive adversative connectives BUT (when it means HOWEVER), HOWEVER, STILL, YET, and THOUGH (when it means HOWEVER) until the examination of CONCESSION relationships.

Students use BUT more frequently than any other of the

CONTRAST/OPPOSITION connectives; therefore, the subtle distinctions between the contrastive and substitutive coordinative connectives are frequently obscured in their sentences. For that reason, both have been considered as if they represented syntactically a single semantic relationship: CONTRAST/OPPOSITION.

Students do not give evidence of having much difficulty with the syntactic representations of CONTRAST/OPPOSITION relationships. However, there are occasions when they use a non-CONTRAST/OPPOSITION connective when the semantic content of the clauses indicates that the relationship involved is CONTRAST/OPPOSITION. For example, the semantic content of the parenthetic clause in this seventh-grade student's sentence:

(92) *THE OTHER STREETS HAVE THEIR OWN CLUBS (OURS IS THE BEST) . . .

suggests that OUR CLUB is being contrasted with those of THE OTHER STREETS (and found superior by the student). This CONTRAST relationship could have been syntactically clear in sentences like these:

(92A) THE OTHER STREETS HAVE THEIR OWN CLUBS, BUT (=ON THE OTHER HAND) OURS IS THE BEST.

(92B) THE OTHER STREETS HAVE THEIR OWN CLUBS; ON THE OTHER HAND, OURS IS THE BEST.

The content of the two VP's in the clause following the semicolon in this seventh-grade student's sentence:

(93) *MY MOTHER'S NEW CAR . . . JUST GOT THE WINDSHIELD CRACKED BY THAT LITTLE BRAT, TOMMY HOLT; HE ALMOST HIT JOEY BUT HIT THE CAR

suggests that the CONTRAST/OPPOSITION relationship signalled by BUT is appropriate; however, the sentence seems incomplete without INSTEAD, as in either of these sentences:

(93A) . . . HE ALMOST HIT JOEY BUT INSTEAD HIT THE CAR.

(93B) . . . HE ALMOST HIT JOEY BUT HIT THE CAR INSTEAD.

In this contradictory adversative coordination, the denial of the first VP, when it is expressed through ALMOST, instead of NOT, seems to require the presence of INSTEAD in the replacement VP, as well as BUT to introduce it. Sentence (93C), in which the denial is expressed through NOT, also seems to be unacceptable:

(93C) . . . *HE DID NOT HIT JOEY BUT THE CAR.

It too seems to require the presence of INSTEAD in the replacement VP, for sentence (93D) seems perfectly acceptable:

(93D) . . . HE DID NOT HIT JOEY, BUT HIT THE CAR INSTEAD.

Disjunction.--A second adversative conjunctive semantic relationship, DISJUNCTION, refers to the presentation of (1) mutually exclusive alternatives to choose from, (2) alternative ways of correcting REFERENTS, or (3) alternative ways to define or explain REFERENTS (9). Mutually exclusive DISJUNCTION results in what Poutsma describes as alternative adversative coordination (8), signalled syntactically by the connective OR, as in these students' sentences:

(94) I THINK YOU WOULD HAVE TO USE TWO OR THREE OF THEM TOGETHER

(95) NOT MANY STUDENTS IN A HIGH SCHOOL CAN SAY HE OR SHE IS REALLY DEPENDABLE

(96) GORDY IS THIRTY-FOUR OR -FIVE . . .

(97) EACH YEAR HE HAS A BATTING AVERAGE CLOSE TO OR OVER THREE HUNDRED

(98) AT BREAKFAST WE DON'T EAT TOGETHER BECAUSE EVERYBODY HAS TO BE AT WORK OR AT SCHOOL AT DIFFERENT TIMES

(99) THIS IS USUALLY WHEN WE DISCUSS THE DAY'S HAPPENINGS OR TOMORROW'S PROBLEMS

(100) MOST OF THE TIME AROUND HERE WE PLAY A LOT OF BASEBALL OR FOOTBALL

(101) THEN WE HAVE TIME TO DO OUR HOMEWORK OR GO OUT AND PLAY

(102) YOU COULD GET INTO A CLASS THAT TEACHES TRAMPOLINE AND WRESTLING. OR, IF YOU PREFER, YOU COULD GET ON THE BASEBALL TEAM

(103) ONCE IN A WHILE MY FATHER MAY HAVE TO WORK LATE . . . OR MY BROTHER DOESN'T KEEP TRACK OF TIME, OR WE'RE INVITED TO FRIENDS' HOUSES FOR DINNER . . .

or by the correlative pair of connectives EITHER . . . OR, as in these students' sentences:

(104) ALSO, I WOULD LIKE TO BE EITHER A WING OR GOALTENDER.

(105) IF HE DOES NOT START TO FULFILL HIS DUTIES PROPERLY THE PERSON THE STUDENT COUNCIL HAS PICKED SHOULD EITHER MAKE HIM DO IT WITH HIS HELP OR . . . RESIGN FROM HIS POSITION . . . .

Corrective DISJUNCTION results in alternative adversative coordination signalled by the connectives OR, (OR) RATHER, (OR) AT LEAST, and THAT IS TO SAY, as in these students' sentences:

(106) BOB KNEW OR SHOULD HAVE [KNOWN] THE RESPONSIBILITIES OF BEING ELECTED SECRETARY OF HIS SCHOOL.

(107) . . . MOST OF THEM ARE PRETTY NICE AND CUTE SO YOU WON'T OR SHOULD I SAY SHOULDN'T HAVE ANY PROBLEMS WITH THEM.

(108) *LIFE IN OUR FAMILY IS PROBABLY THE SAME OR ALMOST THE SAME AS YOU.

(109) HIS NAME IS PAT OR (RATHER) HIS NICE NAME IS PATTY THE FATTY.

(110) . . . THERE IS A POND IN A PARK ABOUT A MILE OR SO AWAY . . . .

Alternative definition DISJUNCTION, or what is an explanation or merely another name for the first REFERENT of the alternative adversative coordination, is signalled by the connective OR, sometimes followed by AS WE SAY HERE, AS IT IS CALLED BY AMERICANS, . . . , as in these students' sentences:

(111) BUT HARDLY ANYBODY IS ALWAYS WATCHING TELEVISION OR, AS WE AMERICANS SAY, GLUED TO THE TUBE.

(112) YOUR HOUSE IS A SUPERIOR WORK OR BUILDING AND YOUR FATHER HAS GOOD TASTE.

(113) IF HE WOULD JUST SIT IT OUT TILL THE REST OF THE YEAR [WAS OVER] HE WOULD HAVE A NAME WHICH [WOULD MAKE EVERYONE SAY], "HE'S THE ONE WHO LET OUR STUDENT COUNCIL GO TO WASTE," OR (=IN OTHER WORDS) "BOB'S RUINED OUR STUDENT COUNCIL BY NOT TAKING ANY NOTES OR REPORTS."

Not every instance of OR is a signal for DISJUNCTION relationships, however; for example, there is the OR (ELSE) that is one of the syntactic signals for the restrictive relationship CONTINGENT EVENT-CONSEQUENCE, as in these students' sentences:

(114) I GUESS I HAD BETTER TELL YOU WHO YOU WILL HAVE FOR WHAT OR ELSE YOU'LL REALLY BE CONFUSED.

(115) AS A RULE THOUGH, MOST OF THE PEOPLE HAVE TO BE ON TIME TO EAT OR IT'S USUALLY NO SUPPER.

The OR in (115) and the OR ELSE in (114) are syntactic equivalents of UNLESS in negative CONTINGENT EVENT-CONSEQUENCE relationships--i.e., sentences (114A) and (115A) are acceptable variants of (114) and (115) respectively:

(114A) UNLESS I TELL YOU WHO YOU WILL HAVE FOR WHAT, YOU'LL REALLY BE CONFUSED.

(115A) AS A RULE THOUGH, UNLESS MOST OF THE PEOPLE ARE ON TIME TO EAT, IT'S NO SUPPER FOR THEM USUALLY.

Also, as Poutsma points out,

> [n]egativing an alternative of course amounts to negativing the two members. Consequently negative alternative coordination is equivalent to negative copulative coordination, and in many cases interchangeable with it . . . . Thus or could replace and in:
>
> Every fellow has some cupboard in his house, which he would not like you and me to peep into . . . .
>
> You are not to think, my dearest Esther, that I fail to see what you see, and fear what you fear . . . . (8, p. 598)

Therefore, OR is an acceptable variant of coordinating AND in negative CATEGORY EXPANSIONS, as in these students' sentences:

(116) WE DO NOT ALWAYS WATCH T.V. OR GO TO PARTIES.

(117) IF THE PRESIDENT DOESN'T DO HIS JOB NOBODY IN OFFICE GETS HALF AS MUCH DONE. OR IF THE SECRETARY DOESN'T WORK, THE REST OF THE OFFICE CAN'T GET ALONG.

(118) THEY CAN'T EVER GO OUT. SOME OF THEM ARE LUCKY IF THEY EAT AT NIGHT OR SLEEP IN A BED.

NOR is also an acceptable variant of coordinating AND in negative

CATEGORY EXPANSIONS, though it is relatively infrequent in student sentences. However, it does appear on occasion, as in this sixth-grade student's sentence:

(119) BUT THE REASON WHY I WOULD LIKE TO BE HIM THE MOST [IS] I CAN'T CATCH OR THROW A BASEBALL VERY WELL NOR CAN I BAT 450 FEET ON A FLY BALL TO BE AN EXCELLENT BASEBALL PLAYER.

Unfortunately, these OR's that are syntactic signals of negative CATEGORY EXPANSIONS have been erroneously counted as if they were DISJUNCTION signals. At this point there seems no way of recovering what percentage of DISJUNCTION OR's are actually signals of negative CATEGORY EXPANSIONS.

Students have few difficulties representing DISJUNCTION syntactically; however, on occasion they do use inappropriate syntactic signals for what appear, from the semantic content of their sentences, to be DISJUNCTION relationships. For example, the semantic content of this seventh-grade student's sentence:

(120) *FOR INSTANCE, MY LITTLE BROTHER AND I BOTH PLAY FOOTBALL FOR DIFFERENT TEAMS AND DON'T GET HOME UNTIL ABOUT 6:30 TO 6:45

suggests that the two brothers don't get home from football practice until either one time point (6:30) or another (6:45), and yet the syntactic signal in the sentence, TO, suggests that the time period is a durative one: it lasts from one point in time (6:30) to another (6:45). The DISJUNCTION relationship would have been syntactically clear in this sentence:

(120A) FOR INSTANCE, MY LITTLE BROTHER AND I BOTH PLAY FOOTBALL FOR DIFFERENT TEAMS AND DON'T GET HOME UNTIL ABOUT 6:30 OR 6:45.

The semantic content of this sixth-grade student's sentence:

(121) *HE IS ALWAYS BUSY WORKING OR PLAYING AND STUDYING

suggests that the activities are mutually exclusive: one can either play or study but he could not be engaged in both at the same time, which the coordinative AND and the progressive form of the verbs suggest. Therefore, the relationship is one of DISJUNCTION, not CATEGORY EXPANSION, and could have been syntactically clear in this sentence:

(122) HE IS ALWAYS BUSY WORKING OR PLAYING OR STUDYING.

Students occasionally produce the syntactic DISJUNCTION connective OR in sentences whose content suggests some other relationship. For instance, in this tenth-grade student's sentence:

(123) *IF BOB WOULD BE LEFT IN ALL YEAR THE BOOKS WOULD BE WRONG; THE SCHOOL WOULD NEVER KNOW WHAT THEY COULD DO OR HOW MUCH MONEY THEY WOULD HAVE

the noun-clause HOW MUCH MONEY THEY WOULD HAVE seems to be an explanation for the first noun-clause: it explains why THEY WOULD NEVER KNOW WHAT THEY COULD DO, rather than presenting two mutually exclusive alternatives. If so, the EXPLANATION relationship could have been syntactically clear in this sentence:

(124) IF BOB WOULD BE LEFT IN ALL YEAR THE BOOKS WOULD BE WRONG; THE SCHOOL WOULD NEVER KNOW WHAT THEY COULD DO BECAUSE THEY WOULD NEVER KNOW HOW MUCH MONEY THEY HAD.

Occasionally students obscure the type of DISJUNCTIVE relationship involved in their sentences by using OR when OR RATHER or OR ELSE or EITHER . . . OR would have clarified whether it was mutually exclusive DISJUNCTION, corrective DISJUNCTION, or definitional DISJUNCTION that was intended. For example, in this tenth-grade student's sentence:

(125) *BUT IF HE WOULD NOT WORK, NO MATTER HOW MUCH PERSUASION OR COAXING THEY TRIED, THEY SHOULD START PROCEEDINGS TO REMOVE HIM FROM OFFICE . . .

the OR coordinating PERSUASION and COAXING doesn't clarify for us whether the student thinks these are mutually exclusive activities (FORCE vs. PLEADING) or whether he thinks COAXING is just another name for PERSUASION. He could have made this syntactically clear by either of these sentences:

(125A) BUT IF HE WOULD NOT WORK, NO MATTER HOW MUCH PERSUASION, OR COAXING THAT IS, THEY TRIED, THEY WOULD START PROCEEDINGS TO REMOVE HIM FROM OFFICE . . . .

(125B) BUT IF HE WOULD NOT WORK, NO MATTER HOW MUCH EITHER PERSUASION OR COAXING THEY TRIED, THEY SHOULD START PROCEEDINGS TO REMOVE HIM FROM OFFICE . . . .

The OR coordinating the two gerundive-clauses of this sixth grader's sentence:

(126) *HE ALSO DOESN'T LIKE TO BE A BALL HOG KEEPING THE BALL UNTIL HE SHOOTS OR KEEPING THE BALL TO HIMSELF NOT LETTING ANYONE ELSE SHOOT

does not clarify whether the student thinks KEEPING THE BALL UNTIL HE SHOOTS is a mutually exclusive alternative of KEEPING THE BALL TO HIMSELF NOT LETTING ANYONE ELSE SHOOT, or whether he is correcting the first by the second, or whether the second is merely another name for the first. The student could have made this syntactically clear by any one of the following sentences:

(126A) HE ALSO DOESN'T LIKE TO BE A BALL HOG, EITHER KEEPING THE BALL UNTIL HE SHOOTS OR KEEPING THE BALL TO HIMSELF NOT LETTING ANYONE ELSE SHOOT.

(126B) HE ALSO DOESN'T LIKE TO BE A BALL HOG KEEPING THE BALL UNTIL HE SHOOTS, OR RATHER KEEPING THE BALL TO HIMSELF NOT LETTING ANYONE ELSE SHOOT.

(126C) HE ALSO DOESN'T LIKE TO BE A BALL HOG KEEPING THE BALL UNTIL HE SHOOTS, OR, AS WE PLAYERS SAY, KEEPING THE BALL TO HIMSELF NOT LETTING ANYONE ELSE SHOOT.

The OR coordinating ALMOST and SOMETIMES in this sixth grader's sentence:

(127) *HE ALMOST OR SOMETIMES GETS A HIT EVERY GAME

creates a semantic impossibility: it is not clear what HE ALMOST GETS A HIT EVERY GAME can mean and therefore it is difficult to see how ALMOST can be an alternative to SOMETIMES, or can be corrected to SOMETIMES, or can be another name for SOMETIMES. The OR coordinating the VP's in the BECAUSE clause of this seventh grader's sentence:

(128) BUT THAT'S BECAUSE SOMEBODY OLDER IN MY FAMILY WORKS LATE OR TOOK THE WRONG BUS OR SOMETHING LIKE THAT

presents mutually exclusive alternatives as reasons why a previous event occurred, and therefore the OR SOMETHING LIKE THAT can be interpreted successfully. However, the OR SOMETHING in this seventh grader's sentence:

(129) *MOST PEOPLE WORK AND DON'T HAVE TIME TO EAT WITH THEIR CHILDREN BECAUSE THEY COME HOME LATE OR SOMETHING

has only one alternative, THEY COME HOME LATE, to be compared with; therefore, it is not clear whether the alternative OR SOMETHING is a mutually exclusive one, a corrective one, or a re-naming one. There must be at least one other specific alternative before OR SOMETHING so that we can determine which of the DISJUNCTIVE relationships is being syntactically represented in the sentence.

A final DISJUNCTIVE relationship is syntactically represented by the OR NOT coordinations of WHETHER . . . OR NOT sentences or clauses. In a clause like WHETHER BOB REALLY WANTS THIS JOB OR NOT in this tenth grader's sentence:

(130) I THINK ASKING ANOTHER STUDENT TO HELP HIM WITH HIS DUTIES MIGHT HELP, BUT AGAIN IT MIGHT NOT; IT JUST DEPENDS ON WHETHER BOB REALLY WANTS THIS JOB OR NOT

the OR NOT represents the meaning OR WHETHER BOB DOES NOT WANT THIS JOB, so that the DISJUNCTIVE relationship signalled by the OR is one of mutually exclusive alternatives. It might also be represented in such clauses as EITHER BOB WANTS THIS JOB OR HE DOESN'T (WANT IT)--an acceptable variant for mutually exclusive DISJUNCTIVE relationships.

## Restriction

Restrictive relationships refer to those that limit, qualify or modify "things-in-the-world" in some particular way; there are numerous syntactic ways by which these restrictions are indicated. Both OBJECT and ACTIONS or EVENTS can be restricted in their application to particular REFERENTS (the linguistic term adopted here to identify "things-in-the-world" when they are represented in language forms).

Object restriction.--In our exploration of the conjunctive relationship OBJECT DESCRIPTION/EXPLICATION, we found it necessary to contrast it with the semantically restrictive relationship OBJECT RESTRICTION, since both relationships are syntactically represented by relative clauses. Restrictive relative clauses are the syntactic representation of OBJECT RESTRICTION relationships, while conjunctive relative clauses are one of the syntactic representations of OBJECT DESCRIPTION/EXPLICATION relationships. From our discussion of the restrictive relative above, it will be helpful to review the points that distinguish OBJECT

RESTRICTION relationships from OBJECT DESCRIPTION/EXPLICATION relationships.

In *Cartesian Linguistics*, Noam Chomsky claims that restrictive relatives do *not* affirm or assert the truth of the proposition stated in the relative clause (6). Logical propositions that ultimately produce restrictive relative clauses feature *two* propositions whose combination can be judged compatible and for which combination a *third* proposition can be asserted as true. There is no truth assertion about the combined propositions individually: it is their compatibility *in combination* that is being asserted. Logical propositions resulting in restrictive relative clauses take the form $\exists x, y\ (x: A).(y: B).(x+y: C)$, and it is these propositions we refer to as the semantic restrictive relationship of OBJECT RESTRICTION. For example, the logical relationship of these propositions,

$$\exists x, y\ (x: \text{MEN})\cdot(y: \text{PIOUS})\cdot(x+y: \text{CHARITABLE})$$

results in this sentence with a *restrictive* relative representing the OBJECT RESTRICTION x+y:

(J) MEN WHO ARE PIOUS ARE CHARITABLE.

Another criterion that OBJECT RESTRICTION relative clauses must meet, indicated by Sandra Annear in her *Restrictive Relative Clauses* (7), is that the speaker assumes his audience does not have sufficient prior or independent knowledge of the OBJECT-being-referred-to to identify the particular OBJECT the speaker is talking about. One of the syntactic results of the speaker's assessment of his audience's background or contextual recollection is that the restrictive relative clause is always accompanied by a *definite* determiner preceding the noun phrase to which it is attached:

> . . . the fact that a relative clause seems to restrict the meaning of the noun follows perfectly naturally from the way in which . . . *the* is used; the hearer is more likely to be able to identify the referent in the sentence THE LINGUIST WHO GAVE THE FIRST PAPER than he would be if the sentence had no relative clause, simply because there are likely to be more linguists in the situation in which a sentence might be uttered than linguists-who-gave-the-first-paper. (7, pp. 15-16)

Therefore, a sentence like THE BOY WHO PLAYED TAPS IS A FRIEND OF MINE is likely to be uttered in a dialogue in which the speaker thinks that the hearer did not have enough prior knowledge to know which BOY was being referred to as A FRIEND OF MINE, and therefore restricts the BOY to the one WHO PLAYED TAPS. The syntactic result is a restrictive relative clause that would be uttered with no significant pause after BOY and no lowering of the intonation level of the voice, or that would be written with no commas setting off the relative clause from the noun phrase to which it is attached.

Restrictive relative clauses written by students include those which restrict OBJECTS that are inanimate or abstract:

(131) I'VE SEEN THE HOUSE YOU'RE MOVING INTO

(132) WRITE BACK AND ANSWER ALL THE QUESTIONS I HAVE ASKED YOU

(133) TWO OF THE RESTAURANTS THAT ARE NEAT ARE "EMIL'S" AND THE "KAHIKI"

(134) . . . HE WOULD LET HIS OWN WORK SLIP AND NOT THE WORK THAT CONCERNS HIS SCHOOL

and those which restrict OBJECTS that are animate:

(135) ALL THE GIRLS MAKE A BOX DINNER FOR THE BOY THEY ADMIRE THE MOST

(136) . . . I CAN GET YOU ACQUAINTED WITH ALL THE PEOPLE THAT I KNOW

(137) THE PEOPLE WHO ARE NOW LIVING ON YOUR FARM HAVE JUST STARTED HARVESTING SOME BIG ORANGE PUMPKINS

(138) . . . THE STUDENT COUNCIL COULD PUT SOMEONE IN HIS PLACE THAT IS RELIABLE . . .

(139) THE STUDENT COUNCIL NEEDS SOMEONE WHO WILL BE A SERVICE TO THEM, ONE WHO WILL BE ABLE TO CARRY OUT THE RESPONSIBILITIES OF HIS OFFICE

including asyndetic relatives--i.e., relatives without a relative pronoun, as in sentences (131), (132), and (135)--as well as relatives with a relative pronoun as a connective, as in sentences (133), (134), and (136)-(139). Curme says of the asyndetic relative clause that

> [t]here is in English fairly well preserved the most primitive type of relative construction, the asyndetic relative clause, i.e., a clause without a connective, without a formal link joining the clause to the governing noun. In a strict sense this is not a relative clause since it does not contain a word

> which points back to an antecedent. The usual custom of saying that the relative is omitted suggests carelessness and has in fact brought the construction into bad repute with many who are wont to attach value to form. A careful study, however, of the true nature of this favorite old construction . . . will show at once that it is a good natural English expression, not a mutilated grammatical member but perfect and neatly fitted into the structure of the sentence performing its function tersely, yet clearly and forcefully, . . . with elegant simplicity. (1, pp. 234-35)

Curme's remarks about this type of relative clause suggests that asyndetic relatives might better be thought of as parataxis, rather than hypotaxis, since there is no formal connective linking the clause to its antecedent NP. The primitiveness of the asyndetic also suggests that it should be considered paratactic rather than hypotactic.

There are other semantic relationships besides OBJECT RESTRICTION that result in what appear at first glance to be relative clauses. For example, the semantic relationship of COMPARISON results in student sentences like these:

(140) OUR NEIGHBORHOOD IS ABOUT THE BEST YOU COULD ASK FOR.

(141) CARL, AS FAR AS I'M CONCERNED, IS THE GREATEST PLAYER THAT EVER LIVED.

(142) I THINK HE IS THE BEST PLAYER ANYONE COULD HAVE.

(143) HE WAS THE GREATEST BASEBALL PLAYER THAT EVER LIVED.

When the comparison is a superlative--i.e., when the OBJECT is regarded as the ultimate of its class, the COMPARISON is syntactically expressed as THE MOST X THAT S. Similarly, the semantic relationship, DEGREE OF INTENSITY OF ACTION/EVENTS, is syntactically expressed as SO X THAT S, as in these student sentences:

(144) HE IS SO NICE THAT IF SOMEBODY DOES NOT LIKE HIM HE MUST NOT BE A HAPPY PERSON . . . .

(145) HE IS SO FAT FROM EATING ALL THE CANDY HE CANNOT PLAY ALL THE SPORTS WE PLAY VERY EASILY.

(146) . . . IT'S SO CLOSE THAT WE PLAY THERE LOTS OF THE TIME.

The restrictive relative clause of this student sentence:

(147) THE SCHOOL WHERE YOU AND I GO HAS A REAL NICE PLAYGROUND . . .

is introduced by the connective WHERE, which indicates that the restriction is one of LOCATION. These restrictive relatives of LOCATION can be mistaken for true LOCATION restrictive relationships which also result in the connective WHERE, as in this sentence:

(148) I BET YOU COULDN'T GO TO THOSE PLACES WHERE YOU LIVE

in which the clause WHERE YOU LIVE restricts the action of GOING TO THOSE PLACES, rather than restricting THOSE PLACES to just those WHERE YOU LIVE.

The semantic relationship of TIME RESTRICTION often results in apparent relative clauses in such student sentences as:

(149) I THINK BY THE TIME GRADUATION COMES AROUND ABOUT 95% OF THE CLASS HAS MATURED.

(150) THE LAST TIME WE PLAYED A BOY GOT HIT IN THE HEAD WITH A BAT SO BRING A HELMET IF YOU HAVE ONE.

(151) . . . MY BROTHERS MIGHT HAVE TO GO TO FOOTBALL PRACTICE AT THE TIME WE USUALLY EAT.

(152) ALL OF THE TIME WHEN WE PLAY I ALWAYS WISH YOU WERE HERE TO PLAY WITH US.

(153) . . . WRITE AGAIN THE DAY BEFORE YOU LEAVE, SO THAT I CAN BE READY FOR YOU!

(154) I DON'T REALLY THINK THAT ANYBODY CAN REALLY SET A CERTAIN [AGE] WHEN A PERSON SHOULD MATURE.

Also, the semantic relationship of MANNER RESTRICTION more often results in apparent relative clauses in such student sentences as:

(155) I WOULD LIKE TO BE LIKE MICKEY MANTLE BECAUSE OF THE WAY HE PLAYS BASEBALL

(156) . . . HE WILL GLADLY HELP US ANY WAY HE CAN

than it does in MANNER-clauses whose connectives are HOW, or HOWEVER.

Finally, there are topicalization devices available to convey the speaker's psychology on the EVENT he is linguistically reporting when the focal point is not the formal "subject NP" of the sentence he might more normally utter. Some of these topicalization devices result in apparent restrictive relative clauses; among them are extrapositions and cleftings which result in THAT-clauses with the same surface appearance as restrictive relatives.

Not only are there semantic relationships other than OBJECT RESTRICTION and topicalization devices that result in apparent restrictive relative clauses, but there are also syntactic forms of restrictive relatives that appear as apparent noun-clauses. Fillmore points out that there is a

> . . . question-word clause [which] must be distinguished from what might be called a "disjunctive relative clause," in which the word WHAT is interpretable as THAT WHICH. In the pair of sentences I KNOW WHAT YOU WANT and I WANT WHAT YOU WANT, the first is a true interrogative-word-clause, while the second is derived from the relative clause construction I WANT THAT WHICH YOU WANT. There are formal as well as semantic grounds for this distinction. One of the characteristics of true interrogative-word-sentences is that they may contain the word ELSE. Thus, ELSE is possible in one of these sentences but not in the other; I KNOW WHAT ELSE YOU WANT is English; but *I WANT WHAT ELSE YOU WANT is not.
>
> As further evidence for the distinction between these constructions, it is possible to construct sentences which are open to both interpretations. One example is I KNOW WHAT YOU KNOW. The grammar will predict two interpretations of this sentence, one corresponding to the meaning I KNOW WHATEVER YOU KNOW, the other to the meaning I KNOW WHAT IT IS THAT YOU KNOW. (10, pp. 92-93)

In short, when WHAT can be interpreted as THAT WHICH or WHATEVER, it is not a noun-clause resulting from a REIFICATION relationship, but instead a restrictive relative clause resulting from an OBJECT RESTRICTION relationship. For example,

(157) HE DID WHAT HE WANTED TO DO, NO MORE, NO LESS

contains an apparent noun-clause (WHAT HE WANTED TO DO . . .) that is actually a restrictive relative, for it can be reinterpreted as either of these sentences:

(157A) HE DID WHATEVER HE WANTED TO DO, NO MORE, NO LESS.

(157B) HE DID THAT WHICH HE WANTED TO DO, NO MORE, NO LESS.

Further confirmation of the restrictive relative interpretation of WHAT comes from student sentences in which the relative clause is attached to THE THING(S). For example,

(158) THE THINGS YOUR FRIENDS WERE TALKING ABOUT ARE NOT TRUE IN MY FAMILY

could just as easily have been expressed as:

(158A) WHAT (=THAT WHICH, WHATEVER) YOUR FRIENDS WERE TALKING ABOUT IS NOT TRUE IN MY FAMILY.

Finally, there are restrictive relative clauses that seem to result not only from OBJECT RESTRICTION relationships, but from EXPLANATORY relationships as well:

(159) . . . IT IS LETTING THE MATTER JUST FLY BY TO BE SOLVED . . . BY SOME POOR "OLD SOUL" WHO WOULD BE UP TO HIS EARS IN PAPER WORK.

(160) AT THE AGE OF FOURTEEN ON CHRISTMAS HE RECEIVED A $22 GLOVE, THE BEST THERE WAS AT THE TIME, AND IT COST A LOT FOR A MAN WHO ONLY EARNED $75 A WEEK.

The restrictive relative WHO WOULD BE UP TO HIS EARS IN PAPER WORK not only limits for identification SOME POOR "OLD SOUL" to one WHO WOULD BE UP TO HIS EARS IN PAPER WORK but also explains why the student calls him a POOR "OLD SOUL"; the restrictive relative, WHO ONLY EARNED $75 A WEEK, not only limits for identification the buyer of the $22 GLOVE to that man WHO ONLY EARNED $75 A WEEK, but also explains why $22 was a lot of money to pay for a baseball glove.*

Students' restrictive relative clauses which pose problems of interpretation are of three types: (1) choice of inappropriate relative pronoun as connective between the clause and the NP it is attached to; (2) omission or duplication of prepositions when the relative pronoun replaces an NP in a prepositional phrase; and (3) ambiguity concerning actual semantic relationship involved, since certain relative pronouns--e.g., WHEN, WHERE--are also used to introduce clauses which result from relationships other than OBJECT RESTRICTION--e.g., TIME, LOCATION. The first two of these can be illustrated very easily by these student sentences:

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*Recall that we discovered some conjunctive relative clauses that not only described (explicated) the OBJECT but explained something about it as well.

(161) *I KNOW A FAMILY THAT THEIR OLDEST BOY IS IN COLLEGE AND IS ON HIS OWN.

(162) *I THINK THEY SHOULD REMOVE HIM IMMEDIATELY AND ELECT ANOTHER MORE COMPETENT THAT POPULARITY HAS NOTHING TO DO WITH.

(163) *YOU SHOULD SEE ALL THE NEW PLACES WE CAN GO.

(164) *YOU CAN SEE ALL THE NEW PARKS TO WHICH WE CAN GO TO.

In sentences (161) and (162), the substitution of WHOSE for the inappropriate THAT would result in acceptable relative clauses:

(161A) I KNOW A FAMILY WHOSE OLDEST BOY IS IN COLLEGE AND ON HIS OWN.

(162A) I THINK THEY SHOULD REMOVE HIM IMMEDIATELY AND ELECT ANOTHER MORE COMPETENT WHOSE ELECTION POPULARITY HAS NOTHING TO DO WITH.

In sentences (163) and (164), the addition of the deleted preposition or the deletion of the redundant one would result in acceptable relative clauses:

(163A) YOU SHOULD SEE ALL THE NEW PLACES WE CAN GO TO.

(164A) YOU CAN SEE ALL THE NEW PARKS WHICH WE CAN GO TO (TO WHICH WE CAN GO).

The third type of difficulty can be illustrated with this seventh grader's sentence:

(165) ?THE HIGH SCHOOL HAS A PARKING LOT WHERE WE PRACTICE OUR TENNIS BEFORE GOING TO THE TENNIS COURTS WHICH ARE ONLY A FEW BLOCKS AWAY.

The relative clause WHICH ARE ONLY A FEW BLOCKS AWAY could have resulted from either an OBJECT RESTRICTION relationship or an OBJECT DESCRIPTION/EXPLICATION relationship. If there are several sets of TENNIS COURTS that the students could play tennis on, then the relative is probably restrictive, since it would limit the ones the students were going to play on to just those particular ones WHICH ARE ONLY A FEW BLOCKS AWAY. On the other hand, if there is only one set of TENNIS COURTS upon which the students play, then the relative is probably conjunctive, since it would describe the OBJECT TENNIS COURTS by pointing out their distance from the PARKING LOT on which they practice. If the relationship is OBJECT RESTRICTION, then sentence (165) is acceptable; if the relationship is OBJECT DESCRIPTION/EXPLICATION, then the conjunctive relative ought to be set off with commas from its NP-antecedent, producing the sentence:

(165A) THE HIGH SCHOOL HAS A PARKING LOT WHERE WE PRACTICE OUR TENNIS BEFORE GOING TO THE TENNIS COURTS, WHICH ARE ONLY A FEW BLOCKS AWAY.

The same ambiguity concerning the semantic relationship of OBJECT RESTRICTION or OBJECT DESCRIPTION/EXPLICATION is contained in this tenth grader's sentence:

(166) ?BY REMOVING SOMEONE FROM OFFICE YOU MIGHT HURT HIS OR HER FEELINGS AND REPUTATION BUT YOU CAN'T HAVE ONE PERSON, WHO DOESN'T CARE, RUNNING EVERYTHING FOR A WHOLE STUDENT BODY.

If the student's idea is that you can't have ONE PERSON RUNNING EVERYTHING, and that that ONE PERSON is someone who, incidentally, DOESN'T CARE, then the relationship is OBJECT DESCRIPTION/EXPLICATION and sentence (166) contains an acceptably punctuated conjunctive relative clause. If, however, the student's idea is that you can't have SOMEONE WHO DOESN'T CARE in charge of running things for the student body (that you can have one person in charge of everything so long as he is someone who cares and is concerned about doing a good job), then the relationship is OBJECT RESTRICTION, and the resulting restrictive relative clause ought not to be set off with commas from its NP-antecedent:

(166A) BY REMOVING SOMEONE FROM OFFICE YOU MIGHT HURT HIS OR HER FEELINGS AND REPUTATION BUT YOU CAN'T HAVE ONE PERSON WHO DOESN'T CARE RUNNING EVERYTHING FOR A WHOLE STUDENT BODY.

Another type of ambiguity resulting from the inability to interpret a student's relative as a restrictive or conjunctive clause arises in this sixth grader's sentence:

(167) ?HIS DAD WAS A SEMI-PRO WHO WORKED IN A MINE.

At first glance, the relative in sentence (167) seems unquestionably a conjunctive relative since it is accompanied by an indefinite determiner preceding its NP-antecedent: A SEMI-PRO. It seems no different in its surface form from the conjunctive relative in this tenth grader's sentence:

(168) HE WAS NOMINATED AND ELECTED BY A SCHOOL WHO SHOULD HAVE KNOWN HIM BETTER.

However, the indefinite determiner in (168) is the indefinite particular determiner, meaning ONE, not the true indefinite meaning ANYONE--i.e., sentence (168) does not mean that HE WAS NOMINATED AND ELECTED BY ANY SCHOOL WHO SHOULD HAVE KNOWN HIM BETTER, but means instead that HE WAS NOMINATED AND ELECTED BY ONE PARTICULR SCHOOL, WHO SHOULD HAVE KNOWN HIM BETTER. In those cases where the indefinite determiner means ANYONE or ALL of that class of OBJECTS--i.e., when it is part of a generic NP--the relative clause results from an OBJECT RESTRICTION relationship, as in sentence (169):

(169) IT IS NOT UNUSUAL FOR A FAMILY TO SIT DOWN . . . AND WATCH A SHOW THE WHOLE FAMILY CAN ENJOY.

Here the meaning of A FAMILY is generic: it means ANY FAMILY or ALL FAMILIES; similarly, the meaning of A SHOW is generic, meaning ANY SHOW or ALL SHOWS. The relative clause THE WHOLE FAMILY CAN ENJOY thus limits the generic NP to just those THAT THE WHOLE FAMILY CAN ENJOY. It is probably true that generic NP's, when followed by relatives, have been restricted rather than described or explicated. Therefore, the relative clauses in the following student sentences are restrictive ones attached to generic NP's with indefinite determiners:

(170) THE STUDENT BODY OF ANY HIGH SCHOOL CAN NOT AFFORD TO HAVE ANY PERSON OR PERSONS WHO MAY IN ANY WAY HOLD UP THE PROGRESS OF THAT BODY.

(171) I THINK THEY SHOULD REMOVE HIM AND PLACE [IN HIS STEAD] A GOOD, CAPABLE PERSON WHO IS WILLING TO TRY AND STRAIGHTEN OUT THE SITUATION THAT BOB HAS MADE.

(172) SOMETIMES [HE EVEN RUNS] WITH THE FOOTBALL ON FOURTH DOWN FOR A TOUCHDOWN THAT MIGHT WIN THE GAME.

If we return now to sentence (167), HIS DAD WAS A SEMI-PRO WHO WORKED IN A MINE, we find that we can now consider the relative clause either as one that restricts a generic NP, A SEMI-PRO, or one that describes a particular NP. If the occupation label, SEMI-PRO, is clear and distinct for the student--i.e., if there are no other SEMI-PROS than the kind his father is--then the relative is probably conjunctive, describing what his father does in addition to being a PROfessional sportsman of some sort. If, on the other hand, the occupational label SEMI-PRO is generic for the student, then the relative is probably restrictive, limiting his father's occupation to just that SEMI-PRO that WORKED IN A MINE, rather than, say, one that WORKED IN A DEPARTMENT STORE. If the relationship is OBJECT RESTRICTION, then sentence (167) contains an acceptable restriction of a generic NP. If the relationship is OBJECT DESCRIPTION/EXPLICATION, then the resulting conjunctive relative will need to be set off by a comma in order to distinguish indefinite but particular NP description from indefinite but generic NP restriction:

(167A) HIS DAD WAS A SEMI-PRO, WHO WORKED IN A MINE.

One final sentence, written by a tenth grader, illustrates the ambiguity resulting from the inability to determine whether a relative clause is conjunctive or restrictive:

(173) *IF HE WOULD JUST SIT IT OUT [FOR] THE REST OF THE YEAR HE WOULD HAVE A NAME WHICH EVERYONE WOULD SAY, "HE'S THE ONE WHO LET OUR STUDENT COUNCIL GO TO WASTE," OR "BOB'S RUINED OUR STUDENT COUNCIL BY NOT TAKING ANY NOTES OR REPORTS."

The relative WHICH EVERYONE WOULD SAY . . . seems to have no meaning which would enable us to determine whether it resulted from OBJECT RESTRICTION of a generic NP (A NAME) or from OBJECT DESCRIPTION/EXPLICATION of a particular NP (ONE NAME). If the student's idea is something like THIS NAME WOULD CAUSE EVERYONE TO SAY . . ., where NAME means REPUTATION, then perhaps we might be able to determine the restrictiveness or the descriptiveness of the relative clause. Since there is no way, however, to recover what the student meant by WHICH EVERYONE WOULD SAY . . ., we would have to be arbitrary about labeling the inappropriateness of this relative clause, and since the NP seems more particular than generic, we choose to consider the relative in sentence (173) as an unacceptable conjunctive relative, rather than an unacceptable restrictive relative.

So far, we have confined our investigation of restrictive relative clauses to those which have been full. We know that there are reduced restrictive clauses which result from the deletion of the relative pronoun and various other syntactic elements of the relative clause so that what is left of the original relative is a LOCATIVE prepositional phrase or a LOCATIVE noun, pronoun or adverb, as in these student sentences:

(174) ALL THE BOYS AND GIRLS AROUND OUR NEIGHBORHOOD ARE SO NICE.

(175) THE PEOPLE HERE ARE VERY KIND.

(176) THEY ARE BUILDING A NEW COLLEGE IN THAT OLD PARK
A COUPLE OF BLOCKS AWAY . . . .

All the underlined phrases in these sentences result from the deletion of WHO (WHICH, THAT) IS (ARE), leaving only the LOCATIVE phrases of the original relative attached to the NP-antecedents. The deletion of WHO IS is responsible for the underlined phrases in these students' sentences also, although these phrases are not LOCATIVE:

(177) . . . WHENEVER HE SEES SOMEONE IN TROUBLE . . .
HE WILL HELP THEM OUT.

(178) HE'S A REAL NICE KID JUST OUR AGE.

The deletion of WHO IS seems to be quite common and seems to illustrate a more general syntactic principle that can operate on all syntactic representations of every restrictive relationship, ACTION/EVENT RESTRICTION as well as OBJECT RESTRICTION. Poutsma has said of subordinate clauses in general that they

> occur in three forms, viz.: a) full, i.e., with every element fully expressed; b) incomplete, i.e., with part of it suppressed . . . ; c) undeveloped, i.e., consisting of a verbal or nominal with or without one or more complements. . . . (8, p. 551)

We therefore include in our account of the subordinate clauses that result from all restrictive relationships some exploration of the non-complete syntactic forms these relationships often appear in.

The reduced restrictive relatives in sentences (174)-(178) above leave behind in the surface sentence no trace of the verbal element (ACTION/EVENT) of the original relative clauses. The reduced restrictive relatives in these sentences:

(179) I WOULD RECOMMEND THAT SOMEONE MORE EFFICIENT
COULD HELP BOB WITH HIS DUTIES

(180) . . . THAT'S BECAUSE SOMEBODY OLDER IN MY FAMILY
WORKS LATE . . .

(181) ATLAS IS A MAN MADE OUT OF STEEL . . .

(182) I THOUGHT I MIGHT WRITE A LETTER TO YOU TELLING
YOU SOME OF THE FACTS . . .

leave behind them the adjectival or "participial" forms of the original verbs, and the reductions in these sentences:

(183) I WOULD LIKE TO SKI AS WELL AS HIM AND PERFORM THE TRICKS HE DOES

(184) THESE ARE THE REASONS AND FACTS WHY I THINK IN THE TERMS THAT I DO

leave behind the pro-verb DO which always indicates that the VP in the superordinate clause has been repeated in the subordinate clause, but with a different actor than in the main clause. In the data analysis of restrictive relatives, we have counted as reduced restrictive relatives only those which, like those in (179)-(184), retain some trace of the original verbal element.

The verb changes in the reduction of the relative clauses in sentences (183) and (184) are not the only changes in verb forms that occur when restrictive relatives are reduced. One of the most common of these verb-form changes can be illustrated in this seventh grader's sentence:

(185) NOW I CAN TELL YOU ABOUT THE KIDS TO PLAY WITH.

The infinitival-clause TO PLAY WITH seems equivalent in meaning to the restrictive relative in this sentence:

(185A) NOW I CAN TELL YOU ABOUT THE KIDS THAT YOU CAN (=WILL BE ABLE TO) PLAY WITH.

Therefore the infinitival-clause TO PLAY WITH seems to be a reduced form of the restrictive relative THAT YOU CAN PLAY WITH. Similarly, the infinitival-clause TO LIVEN UP THE SCHOOL AND STUDENT COUNCIL in this tenth grader's sentence:

(186) THE STUDENT BODY WAS JUST LOOKING FOR SOMEONE TO LIVEN UP THE SCHOOL AND THE STUDENT COUNCIL

seems to be a reduced form of the restrictive relative WHO WOULD (or COULD) LIVEN UP THE SCHOOL AND THE STUDENT COUNCIL. The infinitival-clause TO DO HIS WORK FOR HIM in this tenth grader's sentence:

(187) . . . HE'LL GET THE CREDIT, OFFICE, AND POPULARITY WHILE HE'S GOT SOMEONE TO DO HIS WORK FOR HIM

seems a reduced form of the restrictive relative WHO WILL DO HIS WORK FOR HIM. Also, the infinitival-clause WHAT TO DO in this tenth grader's sentence:

(188) . . . HE SHOULD BE ABLE TO KNOW WHAT TO DO MAYBE IF SOMEONE HELPED HIM

seems equivalent in its reduced form to the restrictive relative WHAT (=THAT WHICH) HE SHOULD DO.

The infinitive results from the reduction of the verb-group in the original restrictive relative clause probably from the same semantic principle that REIFICATION relationships become infinitive-clauses when they are to be embedded in NP-slots in main clauses. This principle can be stated briefly here in terms of its syntactic results: whenever the restrictive relative contains a modal auxiliary verb (CAN, COULD, WILL, WOULD, SHALL, SHOULD, MAY, MIGHT, MUST, HAVE TO, OUGHT TO, NEED, DARE, . . .) the modal can be replaced by the preposition TO and the verb-form changed to its simple infinitive form, i.e., its tenseless, personless and numberless base stem.* There seems to be only one kind of infinitival-clause that is a reduced relative but yet does not conform to this conversion principle. In sentence (189) written by a sixth grader:

(189) HE IS ONLY THE SECOND MAN TO PASS THE ONE THOUSAND YARDS MARK

the infinitival-clause TO PASS THE ONE THOUSAND YARDS MARK seems equivalent to the restrictive relative WHO HAS PASSED THE ONE THOUSAND YARDS MARK, in which the relative clause VP does not contain a modal auxiliary but a perfect auxiliary instead. Even if the verb HAS PASSED were changed to HAVE PASSED in the reduction transformation instead of PASS, we would still have an anomalous infinitival-clause, TO HAVE PASSED THE ONE THOUSAND YARDS MARK.

In sentences (185)-(188) above, the NP-antecedents of the reduced relatives were animate OBJECTS; the reduction of relative clauses attached to inanimate and abstract OBJECTS also results in infinitival-clauses, as these student sentences illustrate:

(190) THEN THERE ARE PEOPLE WHO DON'T EVEN HAVE TELEVISION TO WATCH (=THAT THEY CAN WATCH) . . . .

(191) I WOULD ALSO LIKE TO HAVE HIS SMILE TO WEAR (=THAT I COULD WEAR).

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*It is true, of course, that we could just as well have viewed this process as working in reverse: the infinitival-clause existing as the original syntactic representation of some OBJECT RESTRICTION relationships and being subsequently expanded into the restrictive relative clause. The familiarity of the relative clause form to native speakers caused us to choose the relative clause as the base form and the infinitival clause as the reduced form.

(192) . . . UNLESS SOMEONE HAS WORK TO DO (=THAT HE MUST DO) AND CANNOT COME.

LOCATIVE OBJECTS with restricted relatives can also be reduced to infinitival-clauses, as these student sentences illustrate:

(193) AMERICA IS A WONDERFUL PLACE TO LIVE (=IN WHICH YOU CAN LIVE).

(194) . . . HE STILL NEEDS HIS PARENTS FOR A HOME TO LIVE IN (=IN WHICH HE CAN LIVE), AND A BED TO SLEEP IN (=IN WHICH HE CAN SLEEP).

There is another way in which restricted relatives whose NP-antecedents are LOCATIVE OBJECTS can be reduced; this reduction seems only to occur when the LOCATIVE OBJECT is a general one (like PLACE) and the relative pronoun is the LOCATIVE pronoun WHERE. The following sentences:

(195) I HEARD THAT YOU ARE MOVING [BUT] YOU DON'T WANT TO MOVE BECAUSE YOU LIKE WHERE YOU ARE NOW (=THE PLACE WHERE YOU ARE NOW)

(196) WE HAVE A PLAYGROUND ON THE NEXT STREET [OVER] FROM WHERE WE LIVE (=THE PLACE WHERE WE LIVE)

contain reduced relatives in which the NP-antecedent has been deleted, but can easily be recovered since the LOCATIVE relative WHERE can only mean that a LOCATIVE OBJECT like PLACE, STREET, TOWN, CITY, or BLOCK has been restricted. This general LOCATIVE OBJECT is sometimes syntactically represented by the "dummy"-pronoun IT, as this seventh grader's sentence illustrates:

(197) I LIKE IT WHERE I USED TO LIVE.

TIME OBJECTS with restrictive relatives can be reduced to infinitival-clauses, just as LOCATIVE OBJECTS can, as these students' sentences illustrate:

(198) . . . WE CAME HOME WITH OUR SHIRTS AND BASKETS STUFFED AND WE FEASTED FOR WEEKS TO COME (=WHICH WERE COMING UP).

(199) IT IS TRUE WE DO WATCH TELEVISION AND GO TO PARTIES BUT WE DO FIND TIME TO BE TOGETHER (=IN WHICH WE CAN BE TOGETHER).

Abstract OBJECTS with restrictive relatives can also be reduced to infinitival-clauses, as these student sentences illustrate:

(200) I WOULD LIKE TO HAVE A SENSE OF HUMOR TO GO WITH
MY POLITNESS (=THAT WOULD GO WITH MY POLITENESS).

(201) . . . HE HASN'T DONE ANYTHING TO IMPROVE HIMSELF
AND HIS JOB (=THAT WOULD IMPROVE HIMSELF AND
HIS JOB).

The only difficulties that students seemed to have with reduced relative clauses occurred in sentences involving ABSTRACT OBJECTS like these as NP-antecedents. For example, a restricted abstract OBJECT like THE RESPONSIBILITY THAT THEY VOTE can be syntactically reduced to THE RESPONSIBILITY TO VOTE (if the ACTION of THEY VOTE is future or contingent) or reduced to THE RESPONSIBILITY OF VOTING (if the ACTION of THEY VOTE is co-temporaneous or repetitively occurrent). Therefore, we find acceptable this eleventh grader's sentence containing the reduced restrictive OF VOTING:

(202) . . . IN MANY STATES THEY WILL NOT LET YOU VOTE
UNTIL YOU ARE 21 YEARS OF AGE BECAUSE THEY THINK
THAT YOU ARE NOT MATURE ENOUGH TO ACCEPT THE
RESPONSIBILITY OF VOTING

since VOTING is an activity that can be thought of as taking place repetitively. However, we find unacceptable this twelfth grader's sentence:

(203) *BOB HAS THE HABIT OF PUT THINGS OFF TO THE LAST
MOMENT . . .

because the activity of HE PUTS THINGS OFF TO THE LAST MOMENT as a HABIT has to mean that it is a repetitive occurrence. Therefore, the infinitival form PUT THINGS OFF TO THE LAST MOMENT is inappropriate for repetitive occurrences, and the gerundive reduction would be syntactically appropriate:

(203A) BOB HAS THE HABIT OF PUTTING THINGS OFF TO THE
LAST MOMENT . . . .

The ambiguity of this sentence:

(204) ?. . . MAYBE SOME OF THE STUDENTS DIDN'T SEE THIS
BLIND SPOT OF BOB NOT BEING ABLE TO FULFILL HIS
DUTY

is the only other type of difficulty we had in interpreting students' reduced relative clauses. For example, it is not clear whether the NOT BEING ABLE TO FULFILL HIS DUTY is the result of an OBJECT DESCRIPTION/EXPLICATION relationship or an OBJECT RESTRICTION one, because it is not clear what the OBJECT is. Is it THIS BLIND SPOT or is it THIS BLIND SPOT OF BOB'S? If it is the former, then the relationship is OBJECT RESTRICTION, identifying which particular BLIND SPOT it was the students hadn't noticed:

(204A) . . . MAYBE SOME OF THE STUDENTS DIDN'T SEE THIS BLIND SPOT OF BOB'S NOT BEING ABLE TO FULFILL HIS DUTY.

If it is the latter, then the relationship is OBJECT DESCRIPTION/EXPLICATION, renaming the OBJECT in an appositive relationship:

(204B) . . . MAYBE SOME OF THE STUDENTS DIDN'T SEE THIS BLIND SPOT OF BOB'S--(HIS) NOT BEING ABLE TO FULFILL HIS DUTY.

Causality relationships.--There is a cluster of semantic relationships that concern themselves generally with causality, but which can be differentiated into several kinds of causality relationships, each of which results in a slightly different group of connectives that introduce the subordinate clause in surface sentences. We have subdivided causality relationships into the following subsets:

1. CONTINGENT EVENT-CONSEQUENCE relationships whose principal connectives include IF and UNLESS;

2. EXPLANATION relationships whose principal connectives include FOR (=FOR THE REASON THAT), ON ACCOUNT OF and BECAUSE (=MOTIVATION);

3. PURPOSE relationships whose principal connectives include FOR (=FOR THE PURPOSE OF), SO THAT and IN ORDER THAT;

4. CAUSATION relationships whose principal connective is CAUSING;

5. REAL EVENT-CONSEQUENCE relationships whose principal connectives include SO, THUS, THEREFORE, CONSEQUENTLY, SINCE . . . THEN, and NOW THAT . . . THEN;

6. CONCESSION relationships whose principal connectives are ALTHOUGH. EVEN THOUGH, EVEN IF, NO MATTER WHAT, BUT, YET, THOUGH, and HOWEVER.

The differences between the various CAUSALITY relationships will become evident as we explore each of them below.

Contingent event-consequence relationships of causality.--The semantic restrictive relationship CONTINGENT EVENT-CONSEQUENCE results in two types of hypotactic clauses: (1) those that state an idea of mere condition or hypothesis, with IF as the typical conjunction, and (2) those that state the ideas of condition and exception combined, with UNLESS as the typical conjunctive (8). Clauses of the first type consist of the subsets, open condition and supposition (termed rejected condition by Poutsma and Sweet, and rejecting condition by Jespersen). Those clauses

> . . . of open condition "do not imply anything as to the fulfillment of the condition, such as IF YOU ARE RIGHT, I AM WRONG, where the speaker does not let us know whether he thinks the other one to be in the right or not." (8, p. 694)

Those clauses of supposition express either

> . . . a supposition contrary to some fact known to the speaker, as in IF HE WERE PRESENT (WHICH HE IS NOT), I WOULD SPEAK TO HIM, or . . . a supposition regarding the future which is made merely for the sake of argument, as in IF IT SHOULD RAIN, WE HAD BETTER STAY IN-DOORS. (8, p. 694)

Clauses of open condition and supposition as syntactic representations of the semantic relationship CONTINGENT EVENT-CONSEQUENCE include as connectives IF, BUT THAT, ONLY THAT, IN CASE THAT, ON CONDITION THAT, CONDITIONALLY, SO LONG AS, PROVIDED THAT, PROVIDING THAT, SUPPOSING THAT, IF THE CASE BE THAT, SAY, and SUPPOSE.* Clauses of combined condition and exception include as their connectives, UNLESS, WITHOUT and EXCEPT (8, p. 694).

IF, the connective that signals the conditional subset of CONTINGENT EVENT-CONSEQUENCE, also serves as the connective for noun-clauses in which there is some condition or hypothesis being REIFIED; the following sixth grader's sentence will illustrate both semantic relationships and thus enable us to contrast the hypotactic CONTINGENT clause with the nominalized REIFICATION clause:

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*Note that these last two connectives (SAY, SUPPOSE) are paratactic connectives since the hypothesis sentence (the IF-clause) can often be separated from the result sentence (the THEN-clause) by a period or a semicolon.

(205) WHEN I HAVE NO SCHOOL I GO DOWN THE BLOCK TO SEE IF MY FRIEND CAN PLAY; IF SHE CAN'T PLAY OR ISN'T HOME I ASK MY MOM IF I CAN RIDE MY BIKE TO BARNETT RECREATION CENTER . . . .

In the first main clause before the semicolon, the IF-clause results from the REIFICATION of a condition which is to be determined by the speaker's GOING DOWN THE BLOCK TO SEE (=TO FIND OUT, TO DISCOVER) IF IT IS TRUE THAT her friend can come out to play with her. Only the CONTINGENT EVENT is expressed in the REIFICATION relationship; no mention is made of the CONSEQUENT EVENT. In the second main clause following the semicolon, the first IF-clause results from a CONTINGENT EVENT which has its CONSEQUENT EVENT expressed; in other words, the student will ASK MY MOM . . . only if the condition SHE CAN'T PLAY OR ISN'T HOME comes about. The second IF-clause (IF I CAN RIDE MY BIKE TO BARNETT RECREATION CENTER) is again a REIFICATION of a question the student will ask her mother if the CONTINGENT EVENT of the first IF-clause (IF SHE CAN'T PLAY OR ISN'T HOME) actually occurs. Again only the CONTINGENT EVENT is REIFIED into the noun-clause (IF I CAN RIDE MY BIKE . . .); no CONSEQUENT EVENT is referred to. The REIFICATION of CONTINGENT EVENTS (without their CONSEQUENT EVENTS) results in such noun-clauses as these student sentences illustrate:

(206) I WONDER IF EUROPE IS AS NICE A PLACE AS AMERICA IS.

(207) I WOULD LIKE TO KNOW IF YOUR FRIENDS EVER VISITED AMERICA.

(208) WHEN HE IS UP TO BAT HE CAN TELL IF IT IS GOING TO BE GOOD OR NO GOOD.

IF-clauses that are REIFICATION clauses are the only examples of non-CONTINGENT EVENT-CONSEQUENCE IF-clauses. CONTINGENT EVENT-CONSEQUENCE relationships that result in open condition hypotactic clauses signal this relationship subset by an IF that seems to mean IF IT IS TRUE THAT, as these student sentences illustrate:

(209) IF (=IF IT IS TRUE THAT) YOU ENJOY BABYSITTING YOU CAN SURE GET JOBS ON THIS STREET!

(210) I FEEL THAT IF (=IF IT IS TRUE THAT) THEY ARE GOOD ENOUGH TO FIGHT AND DIE FOR THEIR COUNTRY, THEN THEY ARE THE MEN OF THE WORLD . . . .

(211) . . . SOME OF THEM ARE LUCKY IF (=IF IT IS TRUE THAT) THEY EAT AT NIGHT OR SLEEP IN A BED.

One of the difficulties students seem to have with this IF IT IS TRUE THAT open condition relationship can be illustrated with this seventh grader's sentence:

(212) *IF YOU DID GO DOWN THERE DID YOU SEE ANYBODY INTERESTING?

The ACTION referred to in the student's IF-clause refers to a REAL EVENT, one that has already occurred, not to a CONTINGENT EVENT that may or may not have occurred as far as the speaker is concerned. Therefore, there is a conflict between the signal for possibility (IF) and the content of the clause (REAL EVENT). If the relationship intended by the student was REAL EVENT-CONSEQUENCE, then the appropriate connective to signal that relationship is one like SINCE, (AND) SO, (AND) THUS, THEREFORE, CONSEQUENTLY, NOW THAT, . . . , as illustrated by this sentence:

(212A) SINCE YOU DID GO DOWN THERE DID YOU SEE ANYBODY INTERESTING?

Similarly, this tenth grader's sentence:

(213) *IF HE ALREADY HAD SEVERAL WARNINGS IN JUST 2 MONTHS THEN I DON'T THINK HE'D EVER CHANGE FOR THE BETTER

contains a conflict between the CONTINGENT EVENT-CONSEQUENCE signal IF and the REAL EVENT content of the clause itself HE ALREADY HAD SEVERAL WARNINGS IN JUST TWO MONTHS, and if the relationship intended by the student was REAL EVENT-CONSEQUENCE, then it could have been syntactically represented by this sentence:

(213A) SINCE HE ALREADY HAD SEVERAL WARNINGS IN JUST TWO MONTHS, THEN I DON'T THINK HE'LL EVER CHANGE FOR THE BETTER.

Another difficulty students sometimes have with the IF IT IS TRUE THAT relationship can be illustrated with this seventh grader's sentence:

(214) *I KNOW MANY PEOPLE AND IF YOU HAD ANY FRIENDS IN YOUR OLD HOUSE I WILL TRY [TO] GET YOU NEW FRIENDS IN YOUR NEW HOUSE.

The IF-clause seems to mean IF IT IS TRUE THAT YOU HAD SOME FRIENDS IN YOUR OLD NEIGHBORHOOD (assuming that IN YOUR OLD HOUSE means IN YOUR OLD NEIGHBORHOOD, rather than literally INSIDE YOUR OLD HOUSE), but the CONSEQUENT EVENT does not really follow as a consequence of such a contingency; if, for example, all these contingencies were involved, IF YOU HAD ANY FRIENDS IN YOUR OLD NEIGHBORHOOD AND IF YOU ARE AFRAID THAT YOU WON'T HAVE ANY WHEN YOU MOVE INTO YOUR NEW NEIGHBORHOOD, the *consequences* might include YOU DON'T HAVE TO WORRY BECAUSE I WILL TRY TO GET YOU SOME NEW FRIENDS IN YOUR NEW NEIGHBORHOOD. Such a set of relationships (CONTINGENT EVENT-CONSEQUENCE and CAUSATION) might be indicated in a sentence like this:

(214A) I KNOW MANY PEOPLE AND IF (=IF IT IS TRUE THAT) YOU HAD ANY FRIENDS IN YOUR OLD NEIGHBORHOOD AND IF (=IF IT IS ALSO TRUE THAT) YOU ARE AFRAID THAT YOU WON'T HAVE ANY FRIENDS WHEN YOU MOVE INTO YOUR NEW NEIGHBORHOOD, THEN (=CONSEQUENTLY) YOU DON'T HAVE TO WORRY BECAUSE I WILL TRY TO GET YOU SOME NEW FRIENDS IN YOUR NEW NEIGHBORHOOD.

Whatever relationship the student intended, it is clear that his sentence, (214) above, has failed to represent syntactically enough of the components to make it interpretable. As his sentence stands, there is a semantic conflict between the entire CONTINGENT EVENT clause and what follows, for the clause that ought to represent the CONSEQUENT EVENT (I WILL TRY TO GET YOU NEW FRIENDS IN YOUR NEW HOUSE) cannot semantically be the consequence of the IF-clause.

CONTINGENT EVENT-CONSEQUENCE relationships that result in *supposition* hypotactic clauses of the *contrary-to-known-fact type* signal this relationship subset by an IF that seems to mean IF IT WERE TRUE BUT IT ISN'T, as these student sentences illustrate:

(215) IF (=IF IT WERE TRUE, BUT IT ISN'T, THAT) I HAD HIS BUILD, I WOULDN'T HAVE TO BE ASHAMED AT THE POOL.

(216) AND IF (=IF IT WERE TRUE, BUT IT ISN'T, THAT) I HAD HIS MELLOW-SOUNDING VOICE IT WOULD ADD EVEN MORE TO [MY PERSONALITY].

CONTINGENT EVENT-CONSEQUENCE relationships that result in hypotactic clauses of the type *supposition regarding the future made merely for the sake of argument* signal this relationship subset by an IF that seems to mean IF IT SHOULD HAPPEN THAT THIS EVENT OCCUR, or IF THIS EVENT WERE TO HAPPEN. This tenth grader's sentence illustrates the difference between *open condition* relationships (signalled by IF IT *IS* TRUE THAT) and *future supposition for argument's sake* relationships (signalled by IF IT SHOULD HAPPEN THAT):

(217) IF (=IF IT IS TRUE THAT) HE WAS CAPABLE ENOUGH TO BE ELECTED, [AND] IF (=IF IT SHOULD HAPPEN THAT) SOMEONE HELPED HIM GET BACK ON THE JOB, MAYBE HE'D BE GOOD AGAIN.

In other words, under two conditions--one that might have been true in the past or might be true in the present, and one that might occur in the future--a consequence (HE'D BE GOOD AGAIN) might materialize. These IF IT SHOULD HAPPEN THAT suppositions appeared frequently in those students' essays in which they were requested to choose between several alternative courses of action that a high school Student Council might take if it found out that its elected treasurer were neglecting his duties. The following sentences written by tenth graders illustrate this IF IT SHOULD HAPPEN THAT relationship:

(218) . . . IF (IT SHOULD HAPPEN THAT) THEY KEEP HIM IN OFFICE . . . THEY MAY FALL WAY BEHIND AND NEVER GET ANYTHING DONE.

(219) FINALLY IF (IT SHOULD HAPPEN THAT) NEITHER METHOD WORKS THE COUNCIL SHOULD START PROCEEDINGS TO REMOVE HIM.

Not all of these future supposition relationships involve a reference to a single future occurrence; some of them refer to repetitive occurrences, as illustrated by this eighth grader's sentence:

(220) IF WE WATCH T.V. WE WATCH TOGETHER; IF WE GO TO PARTIES WE GO TOGETHER.

The IF in these IF-clauses seems to mean IF IT SHOULD HAPPEN AND WHENEVER IT SHOULD HAPPEN THAT, or as it is occasionally expressed IF AND WHEN, so that this sentence can be interpreted in this manner:

(220A) IF (=IF AND WHENEVER IT SHOULD HAPPEN THAT) WE WATCH T.V. WE WATCH TOGETHER; IF (=IF AND WHENEVER IT SHOULD HAPPEN THAT) WE GO TO PARTIES WE GO TOGETHER.

This seventh grader's sentence also illustrates this IF AND WHEN relationship:

(221) IF (=IF AND WHENEVER IT SHOULD HAPPEN THAT) WE EAT LATE WE'VE GOT GOOD REASONS.

Therefore, we can see why a sentence like this seventh grader's is unacceptable:

(222) *WE GO TO PARTIES IF (IF AND WHENEVER IT SHOULD HAPPEN THAT) WE WERE ASKED AND OF COURSE IF (IF AND WHENEVER IT SHOULD HAPPEN THAT) WE WERE ALLOWED

because the IF AND WHEN(EVER IT SHOULD HAPPEN THAT) relationship cannot be involved with the past EVENTS (WE WERE ASKED, WE WERE ALLOWED). If the relationship intended by the student was indeed the IF AND WHEN suppositional one, then its syntactic representation would be something like this sentence:

(222A) WE GO TO PARTIES IF (AND WHEN) WE ARE ASKED AND OF COURSE IF (AND WHEN) WE ARE ALLOWED.

One of the difficulties our students had with this future supposition for argument's sake relationship can be illustrated with this tenth grader's sentence:

(223) *IF WORD EVER GOT AROUND THAT CENTRAL HIGH COULD NOT SOLICIT OFFICERS, WELL, YOU KNOW THE ANSWER.

Since CONTINGENT EVENTS are followed by CONSEQUENT EVENTS, then the student's lexical choice of ANSWER seems inappropriate, since answers follow questions, not contingencies. If some general term for CONSEQUENT EVENT had been selected, sentence (223) would have been something like this:

(223A) IF WORD EVER GOT AROUND THAT CENTRAL HIGH COULD NOT SOLICIT OFFICERS, WELL, YOU KNOW THE RESULT (CONSEQUENCE).

Another type of difficulty we encountered in students' sentences containing these future supposition relationships was the choice of modal auxiliary or tense in either the subordinate clause or the superordinate clause. For example, this tenth grader's sentence contains the modal of ABILITY (COULD) in the CONSEQUENCE clause:

(224) *. . . IF SOMEONE JUST LETS THINGS GO FOR A COUPLE OF MONTHS, AND DOESN'T MAKE AN EFFORT TO TRY, [HE] COULDN'T HOLD A JOB

which should probably be the modal of possibility (SHOULD), since the CONTINGENT EVENT clause deals with future supposition and cannot be followed by a consequence of real ability. And in this seventh grader's sentence:

(225) *YOUR MOM PROBABLY WOULDN'T MIND IF YOU GO WITH US

the modal WOULD in the CONSEQUENCE clause does not agree with the present tense verb GO in the CONTINGENT EVENT clause, since GO demands WILL and WOULD demands WENT. Either of these sentences would bring modal of CONSEQUENCE and tense of CONTINGENCY into agreement:

(225A) YOUR MOM PROBABLY WOULDN'T MIND IF YOU WENT WITH US.

(225B) YOUR MOM PROBABLY WON'T MIND IF YOU GO WITH US.

Similarly, the sequence of tenses in the CONTINGENCY and CONSEQUENCE clauses of this tenth grader's sentence:

(226) *IF HE STARTED TO DO THINGS, BETTER KEEP HIM IN OFFICE

is not in agreement, for either STARTED should be changed to STARTS or SHOULD START, or the imperative (YOU) BETTER should be changed to the perfective YOU HAD (YOU'D) BETTER. Also, the modal in the CONSEQUENCE clause of this twelfth grader's sentence should be changed to WOULD to agree with the tense of the CONTINGENCY clause:

(227) *. . . IF THE PARENTS WISH TO PERMIT THEIR CHILDREN TO TAKE AN ACTIVE PART IN THESE ACTIVITIES THEN THIS WILL MEAN A LOT TO THE TEENAGER.

Whether the IF is the contrary-to-fact suppositional connective (IF IT WERE TRUE, BUT ISN'T, THAT) or the future suppositional connective (IF IT SHOULD HAPPEN THAT), the modal of the consequence cannot be the REAL future modal WILL, but must be the conditional modal WOULD.

Let us turn now to the second major type of CONTINGENT EVENT-CONSEQUENCE relationships, those that result in the negative conditional hypotactic clauses, the combination of condition and exception whose typical connective is UNLESS, as illustrated by these eighth graders' sentences:

(228) AND OF COURSE WE DO HAVE DINNER TOGETHER UNLESS SOMEONE IS NOT HOME.

(229) WE HARDLY EVER ATTEND A PARTY UNLESS IT'S A FAMILY PICNIC PARTY.

Although Poutsma indicates that the only other connectives for the negative conditionals are EXCEPT and WITHOUT (and these purely dialectal in present-day use of the language), we have found at least two others, one of which we discussed above in our exploration of the conjunctive relationship of DISJUNCTION--namely, OR (ELSE). For example, this eighth grader's sentence:

(230) AS A RULE THOUGH, MOST OF THE PEOPLE HAVE TO BE ON TIME TO EAT OR (=OR ELSE) IT'S . . . NO SUPPER [FOR THEM]

which is equivalent semantically to this sentence:

(230A) AS A RULE THOUGH, UNLESS MOST OF THE PEOPLE ARE ON TIME TO EAT, IT'S NO SUPPER FOR THEM.

Similarly, this seventh grader's sentence:

(231) I GUESS I HAD BETTER TELL YOU WHO YOU WILL HAVE FOR WHAT OR ELSE YOU'LL REALLY BE CONFUSED

is equivalent in meaning to this sentence:

(231A) I GUESS THAT UNLESS I TELL YOU WHO YOU WILL HAVE FOR WHAT, YOU'LL REALLY BE CONFUSED.

The other connective that introduces negative conditionals is ONLY WHEN, when it seems to mean EXCEPT WHEN in a sentence like this one written by an eighth grader:

(232) ACTUALLY WE DON'T GO TO THAT MANY PARTIES EITHER, ONLY WHEN (=EXCEPT WHEN) WE ARE INVITED

which seems semantically equivalent to this one:

(232A) ACTUALLY WE DON'T GO TO THAT MANY PARTIES, UNLESS WE ARE (HAVE BEEN) INVITED.

Like other restrictive relationships, CONTINGENT EVENT-CONSEQUENT ones sometimes result in reduced conditional clauses of all types. For example, open condition clauses like the ones in these students' sentences:

(233) IF (IT IS TRUE THAT) YOU ARE, YOU SHOULDN'T BE

(234) IF (IT IS TRUE THAT) THEY DIDN'T, I WOULD LIKE TO KNOW WHERE THEY GOT THEIR INFORMATION

contain reduced forms of IF-clauses in which the VP is only an auxiliary pro-verb whose meaning can be recovered from the VP in the CONSEQUENCE clause (as in sentence (234) where DIDN'T means something like DIDN'T GET THEIR INFORMATION FROM SOMEONE I KNOW) or from a VP in some preceding sentence (as in sentence (233) where ARE means something like ARE UNHAPPY ABOUT SOMETHING YOU'RE GOING TO DO). In this sixth grader's sentence, the open condition

CONTINGENCY clause has been reduced to IF EVER:

(235) HE IS NOT IN THE NEWS VERY MUCH, IF EVER, SO NOT TOO MANY PEOPLE HAVE HEARD ABOUT HIM

whose meaning can be recovered from the CONSEQUENCE clause: IF IT IS TRUE THAT HE IS EVER IN THE NEWS.

Contrary-to-fact supposition clauses can also be reduced, as this tenth grader's sentence illustrates:

(236) IF (IT WERE TRUE, BUT ISN'T, THAT) HE DIDN'T, HE WOULDN'T BE PERFECT.

The meaning of the pro-verb DIDN'T has to be recovered from a preceding sentence, since DIDN'T cannot be a pro-verb for the adjectival verb PERFECT in the CONSEQUENCE clause; the meaning of DIDN'T is something like IF IT WERE TRUE, BUT ISN'T, THAT HE DIDN'T HAVE ANY FAULTS. Future supposition clauses, similarly, can be reduced, as these student sentences illustrate:

(237) IF (IT SHOULD HAPPEN THAT) YOU ARE (=IF IT SHOULD HAPPEN THAT YOU ARE IN MY CLASS AT SCHOOL), YOU'LL HAVE MR. LEAHY FOR HOME ROOM . . . .

(238) FOR THE GIRLS, THERE IS SOFTBALL AND VOLLEYBALL, IF (IT SHOULD HAPPEN THAT) YOUR SISTERS ARE INTERESTED (=IF IT SHOULD HAPPEN THAT YOUR SISTERS ARE INTERESTED IN SPORTS LIKE SOFTBALL AND VOLLEYBALL).

Occasionally, future supposition IF-clauses are reduced to gerundive clauses, like the one in this tenth grader's sentence:

(239) I THINK C IS THE BEST LINE OF ACTION TO TAKE, CONSIDERING THE WELFARE OF BOTH BOB AND THE SCHOOL

where the meaning of CONSIDERING is something like this: IF IT SHOULD HAPPEN THAT YOU WERE TO CONSIDER . . . . Sometimes contrary-to-fact supposition clauses are reduced so that there is no connective like IF left; for example, this sixth grader's sentence:

(240) WITH A NICE CROP OF JET-BLACK, CURLY HAIR, I WOULD LOOK PERFECT IN A PAIR OF SWIMMING TRUNKS

contains the prepositional phrase WITH A NICE CROP . . . that is equivalent in meaning to the contrary-to-fact IF-clause IF (IT

WERE TRUE, BUT ISN'T, THAT) I HAD A NICE CROP OF JET BLACK HAIR. Following the decision we made above concerning reduced relative clauses that had no verbal remnant left after the reduction has taken place, we will not consider any CONTINGENT EVENT-CONSEQUENCE reduction like the one in sentence (240) that leaves only a prepositional phrase after the reduction as an example of reduced conditional clauses.

The only difficulty we encountered in interpreting students' reduced conditional clauses can be illustrated by this seventh-grade student's sentence:

(241) *WE HAVE A CHURCH IN FRONT OF OUR SCHOOL SO IF (IT SHOULD HAPPEN THAT) YOU WANTED TO GET A PAPER ROUTE

in which either the IF-clause CONTINGENCY has lost some vital information that would enable us to understand how such a contingency as IF YOU WANTED TO GET A PAPER ROUTE can be related to a consequence like WE HAVE A CHURCH IN FRONT OF OUR SCHOOL, or the CONSEQUENT EVENT itself has been lost. Since this is the final sentence of the student's essay, it is entirely possible that he may have simply stopped writing at this point, with the CONSEQUENCE clause never getting onto paper.

Explanation relationships of causality.--The second of the CAUSALITY relationships we will examine, EXPLANATION, must be carefully distinguished from strict CAUSATION, especially so since both relationships utilize the connective BECAUSE. EXPLANATION refers to the idea of motivation, reason, or ground for some ACTION or EVENT, while CAUSATION refers to the idea of necessary cause-and-effect ACTIONS or EVENTS. Perhaps the arguments which Kruisinga uses to contrast these two types of CAUSALITY can help make the distinction clearer:

(K) I AM SURE OF IT BECAUSE HE TOLD ME.

(L) I AM SURE OF IT, BECAUSE HE TOLD ME. (9, p. 408)

In sentence (K), Kruisinga points out that the BECAUSE means CAUSES, so that the relationship between the two clauses is something like this: HE TOLD ME CAUSING ME TO BE SURE OF IT. In sentence (L), however, BECAUSE means FOR THE REASON THAT, so that the relationship between the two clauses in this sentence is something like this: THE REASON THAT I AM SURE OF IT IS THAT HE TOLD ME. Therefore, BECAUSE that means CAUSES SOMETHING TO HAPPEN results from the strict CAUSATION relationship, whereas BECAUSE that means THE REASON THAT SOMETHING HAPPENED results from the looser EXPLANATION relationship.

Other connectives for this EXPLANATORY relationship include FOR (=FOR THE REASON THAT), ON ACCOUNT OF, IN THAT, SINCE and AS. Kruisinga points out that a clause

> . . . of cause can bring forward a cause that is an explanation of an action or occurrence in order to inform the reader of this explanation; but it may also take the reader's knowledge for granted, and serve only to remind him of the reason for the action of the main clause. The most important conjunctions in clauses expressing a reason that is assumed to be known or acknowledged as correct . . . are AS and SINCE. (9, p. 410)

Students allude to such reasons that are assumed to be known or they tacitly acknowledge having already given such reasons to the audience in previous utterances in such sentences as these:

(242) BUT, AS YOU PROBABLY KNOW (=AS I'M SURE YOU ALREADY KNOW), THERE ARE DIFFERENT PEOPLE IN THE WORLD, AND THEY ALL HAVE DIFFERENT WAYS AND THOUGHTS.

(243) THE ONLY WORDS FOR JOE AZZARO ARE: HE'S A GREAT GUY, LIKE I SAID BEFORE (=AS I HAVE ALREADY TOLD YOU WHY).

(244) AS YOU SEE (=AS YOU MUST KNOW BECAUSE I'VE GIVEN YOU SO MANY EXAMPLES), I LOVE THE WATER AND LOVE TO TALK ABOUT IT.

FOR THE REASON THAT is somewhat infrequent in the sentences written by students in our project, though we occasionally come across a sentence like this tenth grader's:

(245) I DON'T THINK NO. 2 IS A GOOD SUGGESTION FOR THE REASON THAT HE'S BEEN TOLD ALL YEAR TO BE PROMPT AND ACCURATE AND HE'S JUST IGNORED THE FACT.

FOR more frequently turns up in reduced EXPLANATION clauses, as these students' sentences illustrate:

(246) I ADMIRE HIM FOR HIS GREAT BASKETBALL TALENT.

(247) THEREFORE, I AM IN FAVOR OF LONG VACATIONS FOR HEALTH REASONS.

(248) WILT CHAMBERLAIN IS NOTED FOR PLAYING GOOD BASKETBALL . . . .

Only sentence (248) contains a VP element in its reduction sufficient for us to consider a gerundive-clause like PLAYING GOOD BASKETBALL as an example of a reduced EXPLANATORY clause. As well as FOR as a connective in such reduced EXPLANATORY clauses as these, we frequently find BECAUSE OF in student sentences like these:

(249) JERRY LUCAS IS A MAN WHO I WOULD WISH TO BE LIKE, BECAUSE OF HIS TALENT.

(250) . . . SOME PEOPLE'S MOM AND DAD HAVE TO WORK LATE BECAUSE OF THEIR JOBS . . . .

(251) HERMAN, WHO I WROTE TO YOU ABOUT, . . . HAS GONE TO LOUISIANA BECAUSE OF HIS LONELINESS.

Of course, none of these sentences contains any verbal element in the reduction, and like sentences (246)-(247) would not be considered either as EXPLANATORY relationships or as restrictive reductions. ON ACCOUNT OF, like FOR and BECAUSE OF, are infrequent in project students' sentences, and like them occurs only in reduced EXPLANATORY clauses, most of which have no VP element in the reduction so that they do not figure in the EXPLANATORY relationship totals or the restrictive reduction totals.

By all odds, the most popular connective used by project students to express their EXPLANATORY relationships was BECAUSE (=FOR THE REASON THAT). When they explained why they selected a particular plan of action to follow, for example, they produced sentences like this tenth grader's:

(252) I CHOOSE B BECAUSE (=FOR THE REASON THAT) HE WILL NEVER LEARN THE FUNDAMENTALS OF LIFE IF HE DOESN'T RUN THROUGH SOME HARD STOPS.

When they explained why they either had or hadn't done something, they produced sentences like this seventh grader's:

(253) SO FAR WE ARE NOT DOING VERY WELL BECAUSE WE HAVE A BAD LINE

or this one:

(254) I BABYSIT A LOT BECAUSE I LIKE THE MONEY.

When they explained why they liked something or someone, they produced sentences like these:

(255) YOU WILL ENJOY MOVING HERE BECAUSE THERE ARE MANY FRIENDS IN THE NEIGHBORHOOD.

(256) LEROY KELLY IS MY FAVORITE PERSON BECAUSE HE INSPIRES ME AND ENCOURAGES ME.

When they explained why they wanted to be like someone else they admired, they produced sentences like these:

(257) I WOULD LIKE TO BE LIKE JERRY WEST BECAUSE HE CAN DO ALMOST ANYTHING IN THE WORLD OF BASKETBALL.

(258) I WANT TO BE LIKE BART STARR BECAUSE I WANT TO BE A GREAT PASSER.

When they explained why someone had the characteristics they imputed to him, they produced sentences like these:

(259) HE IS ALSO STRONG BECAUSE HE WORKS OUT WITH WEIGHTS . . . EVERY NIGHT FOR AN HOUR.

(260) HE'S FAMOUS BECAUSE HE SAVED NOTRE DAME FROM LOSING A GAME.

When they explained why they thought or believed or knew something to be true, they produced sentences like these:

(261) I KNOW HOW YOU FEEL ABOUT LEAVING NEW YORK BECAUSE I MOVED RECENTLY MYSELF.

(262) I THINK YOUR FRIENDS ARE WRONG BECAUSE I KNOW MY FRIENDS THINK IT IS THE UTMOST IMPORTANT THING IN THEIR LIVES TODAY.

When they explained emotional reactions of their own or others, they produced sentences like these:

(263) I CAN'T WAIT TILL YOU COME, BECAUSE THEN WE CAN GO TO SO MANY PLACES TOGETHER.

(264) SO DO NOT WORRY BECAUSE I KNOW YOU WILL LIKE IT HERE . . . .

When they explained why some course of action was right, wrong, fair, difficult, easy, worthwhile or useless, they produced sentences like these:

(265) THIS WILL BE GOOD FOR BOB BECAUSE THE OTHER STUDENT COULD TEACH HIM TO BE MORE RESPONSIBLE BY HELPING HIM OUT.

(266) IT WOULDN'T BE FAIR TO ANYONE IF THEY KEPT HIM

IN OFFICE BECAUSE MAYBE SOME OF THE STUDENTS DIDN'T SEE THIS BLIND SPOT OF [BOB'S] NOT BEING ABLE TO FULFILL HIS DUTY.

(267) BUT IT WILL BE EASIER FOR YOU BECAUSE I CAN GET YOU ACQUAINTED WITH ALL THE PEOPLE I KNOW.

(268) FIRST OF ALL, URGING HIM TO BE PROMPT AND ACCURATE IN WRITING MINUTES AND KEEPING THE STUDENT BODY'S ACCOUNTS WOULD BE USELESS BECAUSE HE'S GOT TO WANT TO DO THESE THINGS TO HELP HIS SCHOOL OUT . . . .

The difficulties students have with EXPLANATORY BECAUSE-clauses range from the inappropriate choice of tense or verb for the VP within the clause to the failure of the content of the clause to explain the action or occurrence in the main clause. For example, the tense of the auxiliary verb in the BECAUSE-clause of the seventh grader's sentence should have been HAD rather than HAVE, since the ACTION of the EXPLANATORY clause is prior to the ACTION of the main clause:

(269) *NOW THAT YOU ARE GONE WE ARE ALWAYS FIGHTING OVER ONE MAN BECAUSE YOU HAVE MADE THE SIDES EVEN.

In this next sentence, written by a tenth grader:

(270) *I CHOOSE THE THIRD ONE, BECAUSE IT HAS THE WELFARE OF BOTH BOB AND THE SCHOOL

either the VP of the BECAUSE-clause should be changed to something like CONCERNS or TAKES INTO ACCOUNT, or some portion of the original VP, like HAS AT ITS CORE or HAS AS ITS MAIN CONCERN, has been omitted in the transcription of the idea to paper. The objection to be raised with this next sentence, written by a sixth grader:

(271) *WILT CHAMBERLAIN IS NOTED FOR PLAYING GOOD BASKETBALL AND ALSO BECAUSE HE IS A VERY TALL MAN

concerns the hybrid construction of a reduced EXPLANATORY clause and a complete one, whereas either of the following sentences would cast both EXPLANATORY clauses into one form or the other:

(271A) WILT CHAMBERLAIN IS NOTED FOR PLAYING GOOD BASKETBALL AND ALSO FOR BEING A VERY TALL MAN.

(271B) WILT CHAMBERLAIN IS FAMOUS BECAUSE HE IS A GOOD

BASKETBALL PLAYER AND ALSO BECAUSE HE IS A VERY TALL MAN.

Placing the EXPLANATORY clause, JUST BECAUSE A PERSON IS POPULAR, in the slot normally occupied by an NP or a noun-clause in this sentence:

(272) *JUST BECAUSE A PERSON IS POPULAR DOESN'T MEAN HE CAN DO A JOB WELL

is a common difficulty of project students in the upper high school grades. A sentence containing an extraposed noun-clause is more acceptable:

(272A) IT DOESN'T FOLLOW THAT, JUST BECAUSE A PERSON IS POPULAR, HE CAN DO A JOB WELL.

Some difficulties of interpretation arise when AND and BECAUSE both appear in the same sentence. For example, in this eighth grader's sentence:

(273) ?MOST PEOPLE WORK AND DON'T HAVE TIME TO EAT WITH THEIR CHILDREN BECAUSE THEY COME HOME LATE OR SOMETHING

because of the coordinated VP's resulting from some CATEGORY EXPANSION, it is possible to interpret the BECAUSE-clause as EXPLANATION for both VP's, when it is more likely that it explains only the second one, DON'T HAVE TIME TO EAT WITH THEIR CHILDREN. In a sentence like this sixth grader's:

(274) I LIKE HIM BECAUSE HE IS A GOOD PITCHER AND BECAUSE HE HAS A GOOD PERSONALITY

there is no problem of interpretation, since the AND quite clearly coordinates two BECAUSE-clauses, thus making it clear that there are two REASONS why I LIKE HIM. Similarly, even though the second BECAUSE is not repeated in this sixth grader's sentence:

(275) I WISH I WAS LIKE HIM BECAUSE HE KNEW HOW TO EXPRESS HIMSELF, AND HE ALWAYS KNEW WHAT TO SAY

there is no problem to discover that there are two REASONS why I WISH I WAS LIKE HIM, for the parallel structure of the NP's and VP's in the two clauses (HE KNEW + noun-clause) makes any other interpretation unlikely. However, in a sentence like this one by a sixth grader:

(276) ?I WOULD WANT TO BE . . . LIKE PRESIDENT KENNEDY BECAUSE HE WAS ALWAYS GENEROUS IN HELPING PEOPLE, AND I THINK HE WAS A VERY NICE MAN

it is not completely clear whether the AND coordinates two REASONS or whether it coordinates two main clauses (I WOULD WANT TO BE LIKE PRESIDENT KENNEDY, and I THINK HE WAS A VERY NICE MAN). Similarly, this sixth grader's sentence:

(277) ?MICKEY CHOSE BASEBALL FOR HIS SPORT BECAUSE HIS FATHER WAS A GREAT PLAYER IN BASEBALL AND HE PROBABLY TOLD MICKEY TO PLAY BASEBALL WHEN HE GREW UP

does not make it clear whether the student thought there were two REASONS why MICKEY CHOSE BASEBALL or whether he had two main ideas in mind (MICKEY CHOSE BASEBALL . . . , and HE PROBABLY TOLD MICKEY . . .). Sentences (276) and (277) could have been made unambiguous by the insertion of a second BECAUSE after the coordinating AND if the relationship involved was that of EXPLANATION. Both could also have been made unambiguous by producing conjunctive relatives if the relationship involved had been OBJECT DESCRIPTION/EXPLICATION plus EXPLANATION, as these sentences illustrate:

(276A) I WOULD WANT TO BE LIKE PRESIDENT KENNEDY, WHO WAS A VERY NICE MAN I THINK, BECAUSE HE WAS ALWAYS GENEROUS IN HELPING PEOPLE.

(277A) MICKEY CHOSE BASEBALL FOR HIS SPORT BECAUSE HIS FATHER, WHO WAS A GREAT PLAYER IN BASEBALL, PROBABLY TOLD HIM TO PLAY BASEBALL WHEN HE GREW UP.

Because of the parallel structure in the clauses following each of the AND's in this sixth grader's sentence:

(278) I WISH I WERE LIKE HIM BECAUSE HE WAS BRAVE AND HE KNEW WHAT HE WAS DOING AND HE HANDLED ALL THINGS WITH GREAT KNOWLEDGE

there is no difficulty in interpreting the coordination and the BECAUSE-signal as three REASONS why the student WISHED [HE] WERE LIKE HIM. However, the lack of parallel structure and the semantic content of the clauses following each of the AND's in this sixth grader's sentence:

(279) ?I WANT TO BE LIKE HIM BECAUSE I WANT TO BE A PLACE-KICKER, HE'S MY COUSIN, AND, WELL, I AM AWFUL PROUD OF HIM

make it difficult to tell whether the coordination is of three EXPLANATORY clauses or one EXPLANATORY clause and two OBJECT DESCRIPTION clauses. Either of the following sentences would have made the semantic relationships syntactically clear:

(279A) I WANT TO BE LIKE HIM FOR THESE REASONS: I WANT TO BE A PLACE-KICKER; HE'S MY COUSIN; AND, WELL, I AM AWFUL PROUD OF HIM.

(279B) I WANT TO BE LIKE HIM--HE IS MY COUSIN AND I'M AWFULLY PROUD OF HIM--BECAUSE I WANT TO BE A PLACE-KICKER LIKE HE IS.

There are BECAUSE-clauses written by project students that present problems in interpretation because the EXPLANATORY clauses are ambiguous, redundant, or non-explanatory. For example, while there is no difficulty interpreting the BECAUSE-clause in this eighth grader's sentence:

(280) WE DON'T SPEND MOST OF OUR TIME WATCHING TELEVISION, BECAUSE WE HAVE CHORES, HOMEWORK, FOOTBALL PRACTICE, AND OTHER THINGS TO DO . . .

a similar BECAUSE-clause in this eighth grader's sentence is ambiguous:

(281) ?IT'S NOT TRUE THAT WE SPEND MOST OF OUR TIME WATCHING TELEVISION BECAUSE WE HAVE OUR SCHOOL WORK TO DO . . .

It is not clear whether the clause explains why IT'S NOT TRUE or why WE DON'T SPEND MOST OF OUR TIME WATCHING TELEVISION. In this next sentence, written by a tenth grader, there are two BECAUSE-clauses, either one of which would be acceptable explanations for the main clause, but which together create difficulties:

(282) *I BELIEVE STEP "A" IS THE BEST POSSIBLE SOLUTION TO THIS PROBLEM BECAUSE STEP "B" IS NOT GOOD BECAUSE HE HAS ALREADY BEEN WARNED NOT TO NEGLECT HIS DUTIES BUT HAS ANYWAY.

Within the same sentence, one of the BECAUSE-clauses is redundant, but if both are necessary to express the student's idea, a sentence like the following might make these EXPLANATORY relationships syntactically clear:

(282A) I BELIEVE STEP "A" IS THE BEST POSSIBLE SOLUTION TO THIS PROBLEM BECAUSE STEP "B" IS NOT A GOOD ONE; STEP "B" IS NOT GOOD BECAUSE HE HAS ALREADY BEEN WARNED NOT TO NEGLECT HIS DUTIES BUT HAS ANYWAY.

There are BECAUSE-clauses that do not explain the main clauses they accompany; for example, this sixth grader's sentence:

> (283) *I ALSO LIKE THE TEAM HE PLAYS FOR VERY MUCH BECAUSE HE IS THE MAN WHO MAKES PRACTICALLY ALL THE POINTS IN A GAME AGAINST ANOTHER TEAM.

Here the BECAUSE-clause does not explain why I LIKE THE TEAM; rather, it explains why I LIKE HIM. BECAUSE-clauses following restrictive relatives do not explain the ACTION of the relative; instead, they explain the ACTION in the main clause. The student either does not know this, or he has forgotten that the NP in the main clause was THE TEAM, since the relative containing the person whose ACTION is being explained has intervened. Another sentence in which the BECAUSE-clause does not explain the ACTION in the main clause is this seventh grader's sentence:

> (284) *WE CAN GO TO SKATELAND ON FRIDAY BECAUSE I THINK THEY HAVE DANCES THERE.

It is true that a BECAUSE-clause like BECAUSE THEY HAVE DANCES THERE would be explanatory of the main ACTION (GOING TO THE SKATELAND ON FRIDAY), but it is not true that WE CAN GO TO SKATELAND ON FRIDAY for the reason that I THINK SOMETHING. If the phrase I THINK was meant to reduce the certainty of the statement THEY HAVE DANCES THERE, then it should have followed the statement that really explains why WE CAN GO TO SKATELAND ON FRIDAY, as in this sentence:

> (284A) WE CAN GO TO SKATELAND ON FRIDAY BECAUSE THEY HAVE DANCES THERE, I THINK.

A third sentence containing a BECAUSE-clause that does not explain the main ACTION of its sentence is this one by an eighth grader:

> (285) *I HOPE YOU CAN UNDERSTAND ME BECAUSE WE TOO THINK IT IS IMPORTANT TO EAT MEALS AT A TIME WITH YOUR FAMILY.

The ACTION of the main clause is MY HOPING SOMETHING, and it is not clear how BECAUSE WE TOO THINK IT IS IMPORTANT TO EAT MEALS AS A FAMILY explains why I HOPE SOMETHING. Perhaps the student meant something like this:

> (285A) I HOPE YOU CAN UNDERSTAND ME WHEN I SAY THAT WE TOO THINK IT IS IMPORTANT TO EAT MEALS AS A FAMILY GROUP.

One final sentence in which a BECAUSE-clause is not explanatory is this tenth grader's:

(286) *HE COULD BE CARELESS BECAUSE HE IS A SENIOR AND WOULD LEAVE SCHOOL PRETTY SOON.

The COULD auxiliary of the main clause's ACTION suggests that the EXPLANATORY clause gives the reason why I THINK THAT HE IS CARELESS, in which case, that relationship could have been made syntactically clear by a sentence like this:

(286A) I THINK HE IS CARELESS BECAUSE HE IS A SENIOR AND WILL BE LEAVING SCHOOL PRETTY SOON.

In addition to those sentences in which the BECAUSE-clause is clearly non-EXPLANATORY, there are students' sentences from which some material has been omitted that would more obviously contribute to the explanation of the BECAUSE-clause, but which it is not clear can be omitted from the sentence. For example, in this sixth grader's sentence:

(287) ?I LIKE GORDY BECAUSE HOCKEY IS ONE OF MY FAVORITE SPORTS

the EXPLANATORY clause does explain why I LIKE GORDY if we know that GORDY is GORDY HOWE, THE STAR HOCKEY PLAYER FOR THE DETROIT REDWINGS, which information the student has already given his audience in previous sentences. In short, since we know that GORDY is a HOCKEY PLAYER well-known to the student, then we understand why he can like this man BECAUSE HOCKEY IS ONE OF HIS FAVORITE SPORTS: I LIKE HOCKEY, AND GORDY HOWE PLAYS HOCKEY WELL; THEREFORE, I LIKE GORDY. What is not clear to us is whether such information can be omitted from the EXPLANATORY clause of sentence (287). Another sentence which raises the same question is this one by a seventh grader:

(288) ?I DOUBT THAT YOU HAVE HEARD OF IT BECAUSE I JUST DID.

Once we know that the IT refers to information about the construction of a new school in the student's district, then we understand why BECAUSE I JUST DID is explanation for his doubting whether the person he is writing to, who does not live in the student's district, has heard about it. A questionable omission occurs too in this seventh grader's sentence:

(289) ?I KNOW YOU'RE COMING TO LIVE IN OUR NEIGHBORHOOD AGAIN BECAUSE I JUST SAW YOUR BROTHER.

Does SEEING YOUR BROTHER imply that HE HAS TOLD ME THAT YOU ARE MOVING BACK TO OUR NEIGHBORHOOD? In this seventh grader's sentence:

(290) ?I HOPE YOU AREN'T TOO UNHAPPY ABOUT MOVING BACK HERE BECAUSE WE ALL MISS YOU

the student and his friends (WE) are not UNHAPPY ABOUT YOUR MOVING BACK HERE and that is not why they ALL MISS YOU. Also, in this sixth grader's sentence:

(291) ?I WISH I WERE LIKE MICKEY MANTLE BECAUSE HE SET A WORLD SERIES RECORD OF EIGHTEEN HOME RUNS

it is probable that the student WANTS TO SET HOME RUN RECORDS LIKE MICKEY MANTLE ALREADY HAS, and this can be inferred from the rather specific example he presents in the BECAUSE-clause BECAUSE HE SET A WORLD SERIES RECORD OF EIGHTEEN HOME RUNS. Finally, it is not clear in this eighth grader's sequence of sentences:

(292) ?EVERYONE PICKS ON HIM AND BEATS HIM UP ALL AT ONE TIME. IT'S SO FUNNY, BECAUSE HE GOES HOME CRYING

whether the IT'S SO FUNNY refers to the PICKING ON HIM AND BEATING HIM UP or the BOY'S GOING HOME IN TEARS. In sentences like (287)-(290), the assumed information needed to complete the EXPLANATION of the BECAUSE-clauses has been provided in previous sentences, and therefore the students' BECAUSE-clauses should be accepted as sufficient EXPLANATION; however, in sentences like (291)-(292), we feel that too much inferring has to be done by the readers, and therefore these students' BECAUSE-clauses should not be accepted as sufficient EXPLANATION.

Sentences containing EXPLANATORY BECAUSE-clauses are among those that can have cleft-transformations applied to them, frequently producing sentences that appear to contain restrictive relative clauses. First, let us illustrate the clefting process on a simple expression of an EXPLANATION relationship. For example, this sixth grader's sentence:

(292) THE PERSON I ADMIRE IS MY FATHER BECAUSE HE IS FAIR TO ME AND MY SISTERS AND DOES NOT HAVE A BAD TEMPER

is a cleft-transformation of the simpler syntactic expression of EXPLANATION:

(292A) I ADMIRE MY FATHER BECAUSE HE IS FAIR TO ME AND MY SISTERS AND DOES NOT HAVE A BAD TEMPER.

Frequently an EVENT accompanied by an EXPLANATION requires a rather lengthy sentence in which to record the EVENT itself, so that a second sentence is used to record the EXPLANATION. In these cases, a "THING"-cleft is used for the EXPLANATION, in which a sentential pronoun like THIS (THAT, THESE, THOSE) is used to refer to the THING(S) THAT HAVE OCCURRED, as this eighth grader's sentence illustrates:

(293) BUT THAT'S BECAUSE SOMEBODY OLDER IN MY FAMILY WORKS LATE OR TOOK THE WRONG BUS OR SOMETHING LIKE THAT.

In these cleft-sentences, the fact that an EXPLANATION is involved has always been clear from the connective BECAUSE introducing the EXPLANATORY clause or sentence. Most of the clefts which derive from EXPLANATORY relationships, however, do not retain the BECAUSE signal, but introduce some other signal like WHY or THE REASON. For example, this sixth grader's sentence:

(294) WATER SKIING IS MY FAVORITE SPORT, SO THAT IS WHY I WOULD LIKE TO SKI LIKE HIM

is a cleft-transformation of the simpler syntactic expression of EXPLANATION:

(294A) I WOULD LIKE TO SKI LIKE HIM BECAUSE WATER SKIING IS MY FAVORITE SPORT

in which the EXPLANATION formerly subordinated into a BECAUSE-clause becomes the main clause that is apparently restricted by a REAL EVENT-CONSEQUENCE-clause introduced by SO (=THEREFORE) and containing an apparent noun-clause introduced by WHY (=THE REASON WHY). The EXPLANATORY nature of the original BECAUSE-clause has not been lost in this clefting process, since the sentential pronoun THAT (referring to the main clause in the cleft-variant) and the connective WHY clearly spell out what is EXPLANATORY and what is being EXPLAINED. Similarly, the NP THE REASON clearly indicates that this seventh grader's sentence:

(295) THOSE (=$S_1$, $S_2$, . . . , $S_n$) ARE THE REASONS I WOULD LIKE TO BE LIKE STEVE REEVES

is a cleft-transformation of a simpler syntactic expression of EXPLANATION:

(295A) I WOULD LIKE TO BE LIKE STEVE REEVES BECAUSE $S_1$, $S_2$, . . . , $S_n$.

The NP THE REASONS and the sentential pronoun THOSE in the student's sentence (295) clearly indicate that an EXPLANATION relationship produced this sentence.

The most frequent EXPLANATION-cleft produced by project students was the one in which an apparent restrictive relative and an apparent noun-clause appear, as this sixth grader's sentence illustrates:

(296) THE REASON WHY I'D LIKE TO BE HIM IS THAT HE IS RESPECTED A LOT BY GROWNUPS AND I WOULD LIKE TO BE TOO.

Leaving aside the question of what I WOULD LIKE TO BE TOO is coordinated with, we want to point out that sentence (296) derives from a sentence like this:

(296A) I'D LIKE TO BE HIM BECAUSE HE IS RESPECTED A LOT BY GROWNUPS

in which the EXPLANATION relationship is expressed in a BECAUSE-clause. It is in cleft-sentences like the following that we found students having difficulties:

(297) *THE REASON I WOULD LIKE TO BE LIKE GORDY IS BECAUSE I LOVE THE SPORT OF HOCKEY.

The clefting process should produce THE REASON (THAT/WHY) $S_1$ IS THAT $S_2$, in which the $S_1$ contains what is being explained and $S_2$ contains the explanation. Students seem to err by retaining BECAUSE from the original EXPLANATORY clause construction, instead of supplying the clefting signal THAT before the EXPLANATION. Since the EXPLANATION relationship has been expressed as THE REASON (THAT/WHY), there is no need for retaining the EXPLANATION signal BECAUSE. However, the logical pull of THE REASON . . . IS BECAUSE . . . undoubtedly overrides the structural considerations of the EXPLANATION-cleft and accounts for the frequency of THE REASON . . . IS BECAUSE in students' sentences, as these sixth graders' sentences illustrate:

(298) *BUT THE REASON WHY I WOULD LIKE TO BE HIM THE MOST IS BECAUSE I CAN'T CATCH OR THROW A BASEBALL VERY WELL . . . .

(299) *WHY I'D LIKE TO BE HIM IS BECAUSE I WOULD LIKE TO BE TALL LIKE HIM AND ALSO BE ABLE TO DUNK THE BALL IN THE HOOP OR NET.

One final sixth grader's sentence illustrates how unclear this mechanism for EXPLANATION-clefting is:

(300) *THE REASON WHY YANKEE STADIUM IS CALLED "THE HOUSE THAT RUTH BUILT" MEANS HE ASKED THE YANKEE MANAGER TO HAVE A NEW STADIUM BUILT SO EVERYBODY

WOULD REMEMBER BABE'S GREAT YEARS WITH THE YANKEES . . .

Instead of some form of the verb BE following the REASON WHY statement, the student has the verb MEANS, and there is no cleft-signal (THAT) at all before the EXPLANATION clause itself.

Students sometimes write consecutive sentences (punctuated or not) with no connective between them, even when the relationship of the second to the first seems clearly to be an EXPLANATORY one. Here is a set of sentences by a seventh grader that illustrates this phenomenon:

(301) IF ROXANNE SAYS ANYTHING ABOUT DONALD, IGNORE HER. SHE'S JUST MAKING IT UP. SHE LIKES TO TEASE ME A LOT.

The second sentence seems to explain why YOU SHOULD IGNORE ROXANNE IF SHE SAYS ANYTHING ABOUT DONALD, and the third sentence seems to explain the second sentence, SHE JUST MAKES UP SUCH STORIES. Consider the following pair written by an eighth grader:

(302) THEN THERE ARE PEOPLE WHO DON'T EVEN HAVE TELEVISION TO WATCH. THEY DON'T HAVE ANY MONEY TO PAY FOR THEM.

The second sentence explains why THE PEOPLE DON'T HAVE TELEVISION TO WATCH. Similarly, the second sentence of this pair written by a sixth grader seems to explain the first:

(303) I WISH I WAS LIKE HIM. HE CAN HIT A BALL INTO THE BLEACHERS ALMOST ANYTIME.

One final example is this pair written by a seventh grader:

(304) YOU CANNOT KEEP HOUNDING AT A BOY TO DO SOMETHING, HE'LL JUST KEEP DOING NOTHING.

Even though it is clear to us that the relationship between the sentence sets above is EXPLANATION, it is not clear that the students who wrote them perceived the same relationship. As a result, we cannot consider sentence sets like (301)-(304) as examples of the EXPLANATION relationship.

Before leaving EXPLANATION relationships, we want to recall briefly those sentences we examined before in the section on conjunctive relatives and the one on restrictive relatives in which the relative clauses seem to convey an EXPLANATION for the main clause, as well as the OBJECT RESTRICTION or DESCRIPTION/EXPLICATION relationships they ordinarily represent. The sentence containing the conjunctive relative was this one: MANY PEOPLE WERE SADDENED BY PRESIDENT KENNEDY'S DEATH, EVEN THE NEGROES, WHO HAD HOPES OF HIS IMPROVING THEIR LOT, in which the relative seems to explain why THE NEGROES WERE PARTICULARLY SADDENED BY KENNEDY'S DEATH. The sentence containing the restrictive relative was this one: IT (A $22 GLOVE) COST A LOT FOR A MAN WHO ONLY EARNED $75 A WEEK, in which the relative seems to explain why $22 WAS A LOT OF MONEY TO PAY FOR A BASEBALL GLOVE. We do not know whether this use of relative clauses is typical of students' expansions of particular constructions to convey semantic relationships other than the ones generally attributed to them, nor do we know whether this extension of semantic relationships signalled by particular syntactic constructions is part of a general trend toward more creative use of language.

Purpose relationships of causality.--The semantic relationship of PURPOSE can be distinguished from other CAUSALITY relationships in that it expresses the idea of HUMAN AGENCY WHOSE INTENTION IT IS (WAS) TO CAUSE SOMETHING (NOT) TO HAPPEN--that is, PURPOSE relationships are those initiated solely by human beings and concern themselves entirely with the intent existing prior to any cause-effect occurrence in the real world of "things" and "happenings." The syntactic connectives that signal PURPOSIVE relationships include FOR (=FOR THE PURPOSE OF), SO THAT, IN ORDER THAT, and TO (=IN ORDER TO).

PURPOSIVE relationships that result in complete hypotactic clauses are most frequently introduced in student sentences by the connective SO THAT, as these sentences illustrate:

(305) GOODBYE FOR NOW, AND WRITE THE DAY BEFORE YOU LEAVE, SO THAT I CAN BE READY FOR YOU!

(306) I THINK THAT BOB SHOULD HAVE SOMEBODY TO HELP HIM KEEP UP HIS WORK, SO THAT EVERYTHING WILL BE ORGANIZED.

Often the connective SO THAT appears as SO, just as one of the connectives for REAL EVENT-CONSEQUENCE, AND SO, often appears as SO; it is not usually difficult to determine which relationship SO is the signal for, since the substitution of SO THAT for SO indicates that the relationship is PURPOSE and the substitution of THEREFORE for SO indicates that the relationship is REAL EVENT-CONSEQUENCE. For example, these seventh graders' sentences illustrate both types of SO's and the ease of distinguishing one from the other by the substitution of the alternative connectives THEREFORE (REAL EVENT-CONSEQUENCE) and SO THAT (PURPOSE):

(307) I ALSO KNOW YOU DO NOT KNOW WHAT WE DO AROUND HERE SO (=THEREFORE) I WILL TELL YOU SO

(=SO THAT) YOU WILL HAVE FUN LIKE YOU DID ON YOUR OTHER STREET.

(308) SO (=THEREFORE) WHEN HE GOT HOME, MY MOTHER ASKED HIM TO COME CAMP[ING] WITH US SO (=SO THAT) WE COULD BE TOGETHER.

Not all SO's are so easy to distinguish, however, as this seventh grader's sentence illustrates:

(309) ?WE CAN DO OUR HOMEWORK TOGETHER AND YOUR NEW YARD IS FENCED IN SO (=SO THAT? or =THEREFORE?) YOUR DOG CAN RUN AROUND AND PLAY.

One of the reasons this SO is difficult to interpret is that the ACTION it restricts is ambiguously stated. YOUR NEW YARD IS FENCED IN can be interpreted either as the passive transform of SOMEONE FENCED IN YOUR NEW YARD or as the description of YOUR NEW YARD with a stative adjective FENCED IN.* If the VP IS FENCED IN is a passive transform, then the SO is probably equivalent to SO THAT, since YARDS CAN BE FENCED IN FOR A PURPOSE--namely, SO THAT YOUR DOG CAN RUN AROUND AND PLAY. If the VP IS FENCED IN is purely descriptive (adjectival) of the OBJECT YARD, SO is probably equivalent to THEREFORE, since it would be a CONSEQUENCE of the state of the NEW YARD (its being fenced in) that YOUR DOG CAN RUN AROUND AND PLAY. It is also difficult to interpret the SO THAT of this seventh grader's sentence:

(310) ?THE PEOPLE I KNEW GOT ME ACQUAINTED WITH OTHER PEOPLE SO THAT (=IN ORDER THAT? or =THEREFORE?) I KNEW MANY PEOPLE AND HAD A GREAT TIME.

GOT ME ACQUAINTED WITH is either a passive form of INTRODUCED ME TO or a stative adjective VP equivalent to MADE ME KNOWN TO. If SO THAT is equivalent to IN ORDER THAT, a PURPOSIVE connective, then the VP in the PURPOSE-clause ought to have been a modal like WOULD KNOW. If SO THAT is equivalent to THEREFORE, a REAL EVENT-CONSEQUENCE connective, then the VP in the CONSEQUENCE-clause would be a past tense VP like KNEW. From the tense of the VP that is coordinated with KNEW in sentence (310)--HAD--and from the tense of KNEW itself, it seems more probable that the relationship involved here is REAL EVENT-CONSEQUENCE than it is PURPOSE. The uncertainty lies in the student's choice of connective, SO THAT, which almost always signals PURPOSIVE relationships, and thus it becomes difficult to determine whether the relationship is

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*Stative adjectives are adjectival verbs that have lost all their verbal--i.e., ACTION--characteristics and function therefore as pure descriptive "states" of OBJECTS.

PURPOSIVE which resulted in an inappropriate choice of tensed VP (instead of a modalized VP) or whether the relationship is REAL EVENT-CONSEQUENCE with an inappropriate choice of connective.

Another ambiguity of interpretation arises in the phenomenon we discussed earlier in CATEGORY EXPANSION relationships: the GO AND DO SOMETHING VP's. Briefly, the ambiguity lies in not knowing whether these coordinated VP's actually result from CATEGORY EXPANSION relationships or whether the AND is an inappropriate substitute for TO in PURPOSIVE relationships, as this seventh grader's sentence illustrates:

> (311) ?THEN AFTER THAT WE'LL GO AND MEET SOME OF MY FRIENDS.

It is difficult to tell whether the coordinated VP's in this sentence are equivalent in meaning to GO IN ORDER TO MEET SOME OF MY FRIENDS, or whether it is equivalent to MOVE TO ANOTHER LOCATION WHERE WE CAN DO SOMETHING (GO, MEET SOME OF MY FRIENDS). There is evidence in this eighth grader's sentence:

> (312) AFTERWARD THE CHILDREN HELP THEIR MOTHER WITH THE DISHES AND THEN GO OUTSIDE TO PLAY (=IN ORDER TO PLAY)

that GO SOMEWHERE IN ORDER TO DO SOMETHING might be the model for GO SOMEWHERE AND DO SOMETHING, in which there is a shift toward replacing the PURPOSIVE TO with AND, in much the same way that AND seems to be replacing TO in TRY TO DO SOMETHING constructions. These TRY AND DO SOMETHING and GO SOMEWHERE AND DO SOMETHING constructions are widely prevalent in speech patterns, even of adults, but there is still some resistance to accepting them in writing. Therefore, unable to determine that the relationship resulting in GO (SOMEWHERE) AND DO SOMETHING VP's is not CATEGORY EXPANSION, we have considered all examples of coordinated VP's like the ones in sentence (311) as results of CATEGORY EXPANSION relationships.

In sentence (311) above, we referred to the possibility that GO AND DO SOMETHING VP's might result from PURPOSE relationships in which the AND was an inappropriate substitute for the PURPOSIVE connective TO (=IN ORDER TO), but we did not explore the origin of TO as a PURPOSIVE signal. Since TO always precedes a simple infinitive in these PURPOSIVE relationship clauses, in much the same way it precedes the simple infinitive in nominalizations resulting from REIFICATION relationships, this construction has often been referred to by grammarians as the "purposive infinitive," of the "infinitival-clause of purpose." We consider such infinitive-clauses as TO VISIT MY AUNT in this sixth grader's sentence:

(313) WHEN SCHOOL IS FINISHED WE USUALLY GO ON A VACATION TO FLORIDA TO VISIT MY AUNT

as reduced PURPOSIVE-clauses that originally contained a modal auxiliary in their VP's. For example, the infinitive-clause of sentence (313), TO VISIT MY AUNT, is reduced from IN ORDER THAT WE CAN VISIT MY AUNT, in which the preposition TO signals the modality of the original VP and replaces THAT in the PURPOSIVE connective IN ORDER THAT. PURPOSIVE-infinitival-clauses can be distinguished from REIFICATION infinitive-clauses, since the PURPOSIVE prepositional infinitive can always be interpreted as IN ORDER TO VP, while REIFICATION infinitives never can. Therefore, the infinitive-clause TO SEE IF MY FRIEND CAN PLAY is a PURPOSIVE-infinitive-clause in this sixth grader's sentence:

(314) WHEN I HAVE NO SCHOOL I GO DOWN THE BLOCK TO (=IN ORDER TO) SEE IF MY FRIEND CAN PLAY

while in this sentence:

(M) I WANT TO (≠IN ORDER TO) SEE IF MY FRIEND CAN PLAY

the TO is not equivalent to IN ORDER TO. The following student sentences illustrate PURPOSIVE relationships that result in reduced infinitival-clauses:

(315) THERE ARE A LOT OF LITTLE STORES WHERE WE CAN GO TO (=IN ORDER TO) BUY COKE AND GET CANDY.

(316) AND THEN HE STUDIED TO (=IN ORDER TO) BE PRESIDENT . . . .

Some reduced PURPOSIVE-clauses originate in clauses whose connectives are FOR, the FOR meaning FOR THE PURPOSE THAT, as these student sentences illustrate:

(317) WHILE WE ARE EATING BREAKFAST MY MOTHER MAKES OUR LUNCHES (IN ORDER) FOR US TO EAT AT SCHOOL.

(318) AFTER WE EAT WE HELP CLEAR UP THE TABLE SO (=SO THAT) IT WON'T BE LEFT (IN ORDER) FOR ONE PERSON TO DO.

The FOR-clause before sentence (317) was reduced was probably something like FOR THE PURPOSE THAT WE SHOULD EAT THEM AT SCHOOL, and the FOR-clause in (318) was probably reduced from FOR THE PURPOSE THAT ONE PERSON SHOULD DO THEM. The TO signals the modal auxiliary of the original complete clause, and the FOR is retained preceding the person carrying out the ACTION of the

PURPOSE-clause, since the person ACTING in the PURPOSE-clause is not identical to the person(s) ACTING in the main clause. It may be that PURPOSIVE-infinitival-clauses in sentences like (313)-(318) are doubly reduced: the modal is reduced to the preposition TO and the person ACTING in the PURPOSE-clause is deleted when it is identical to the person ACTING in the main clause.

In these seventh-grade sentences, the PURPOSIVE relationship is clear:

(319) I KNOW YOU'RE COMING (IN ORDER) TO LIVE IN OUR NEIGHBORHOOD AGAIN . . .

(320) MY COUSIN DONNA KAY HAS COME (IN ORDER) TO LIVE WITH US FOR NINE MONTHS (IN ORDER) TO TEACH SCHOOL . . .

since the TO's are equivalent to IN ORDER TO's. However, in this sixth grader's sentence:

(321) ?HIS MOM WENT TO KISS HIM AND WELL, YOU KNOW . . .

it is not clear whether WENT TO KISS HIM is equivalent to WENT IN ORDER TO KISS HIM, or to STARTED TO KISS HIM, or to MADE A MOVEMENT AS IF SHE WERE GOING TO KISS HIM. Since WENT is a VP that semantically represents some kind of MOTION TOWARDS, and since PURPOSIVE relationships represent only the intent to carry out some ACTION without necessarily implying that the ACTION was fulfilled or completed, we consider a sentence like (321) an example of a PURPOSIVE relationship.

There are some initial infinitival-clauses that seem more like intent to announce the next topic. We consider the infinitival-clause TO BEGIN in this seventh grader's sentence as an example of a PURPOSIVE relationship on the performative level of announcing the next topic:

(322) WELL, TO BEGIN, LET ME TELL YOU ABOUT THE NEIGHBORS.

It is equivalent to IN ORDER FOR ME TO BEGIN THIS ESSAY (NARRATIVE, STORY, TALE). Similarly, we consider the infinitival-clause TO BE HONEST in this eighth grader's sentence:

(323) I RECEIVED YOUR LETTER; TO BE HONEST, SOME PARTS ARE TRUE

equivalent to IN ORDER FOR ME TO BE HONEST I MUST SAY THAT, in which the intention to agree with some statements made in the sender's letter is made clear before the specific details are mentioned. Although we have tentatively considered such an infinitival-clause as an example of a PURPOSIVE relationship, it is possible that it is some reduced form of a CONCESSION relationship, since the meaning of the entire clause after the semicolon might be something like this: I HONESTLY ADMIT THAT SOME PARTS OF YOUR LETTER ARE TRUE, ALTHOUGH I WOULD NOT ADMIT THAT THEY ALL ARE.

In this next sentence, written by a sixth grader, there seems to be a PURPOSIVE infinitival-clause that either is out of order or conflicts semantically with the clause it appears to restrict:

(324) *BUT THE REASON WHY I WOULD LIKE TO BE HIM THE MOST IS [THAT] I CAN'T CATCH OR THROW A BASEBALL VERY WELL NOR CAN I BAT 450 FEET ON A FLY BALL TO BE AN EXCELLENT BASEBALL PLAYER.

There seems to be no question that the infinitival-clause TO BE AN EXCELLENT BASEBALL PLAYER can be interpreted as IN ORDER FOR ME TO BE AN EXCELLENT BASEBALL PLAYER, but the problem is that semantically one doesn't speak of NOT BEING ABLE TO DO THINGS for the purpose of BEING EXCELLENT; one speaks of NOT BEING ABLE TO DO THINGS resulting in someone's NOT BEING AN EXCELLENT PLAYER. Perhaps what is intended is a relationship something like this: IN ORDER FOR ME TO BE AN EXCELLENT BASEBALL PLAYER, I WOULD LIKE TO BE ABLE TO CATCH OR THROW A BASEBALL VERY WELL AND BE ABLE TO BAT A FLY BALL 450 FEET, AS HE DOES. The confounding variable in this formulation of this sentence is the EXPLANATORY relationship evident in the "THE REASON"-cleft of THE REASON WHY I WOULD LIKE TO BE HIM THE MOST IS THAT . . . . The REASON why the student wants to be like his sports hero is apparently that his hero can do some things that he can't--namely, CATCH AND THROW THE BALL VERY WELL AND HIT A FLY BALL 450 FEET. Perhaps the PURPOSIVE and EXPLANATORY relationships might be made syntactically clearer by a sentence like this:

(324A) BUT THE REASON WHY I WOULD LIKE TO BE HIM THE MOST IS THAT, IN ORDER TO BE AN EXCELLENT BASEBALL PLAYER, I WOULD HAVE TO CATCH OR THROW A BASEBALL VERY WELL AND BE ABLE TO HIT A FLYBALL 450 FEET OR MORE, AS HE DOES

or a sentence like this:

(324B) BUT THE REASON WHY I WOULD LIKE TO BE HIM THE MOST IS THAT I CAN'T CATCH OR THROW A BASEBALL VERY WELL, NOR CAN I BAT A FLYBALL 450 FEET--ALL OF WHICH ABILITIES I WOULD NEED (IN ORDER) TO BECOME AN EXCELLENT BASEBALL PLAYER AS HE IS.

In many tenth-grade essays, there appeared a sentence like this one:

(325) ?START PROCEEDINGS TO HAVE HIM REMOVED FROM OFFICE

in which the infinitival-clause is ambiguous. Is it equivalent to START TO PROCEED TO HAVE HIM REMOVED FROM OFFICE, or equivalent to START WHATEVER IS NECESSARY TO DO IN ORDER TO HAVE HIM REMOVED FROM OFFICE? If the former, then PROCEEDINGS is some kind of expanded nominalized form of TO PROCEED, in which a generalized noun appears at the head of an infinitival noun-clause following the VP START. If the latter, then PROCEEDINGS is a nominalized reduction of WHATEVER IS NECESSARY TO DO, itself a noun-clause following the VP START. We take PROCEEDINGS to be more likely equivalent to START THE PROCESS WHOSE RESULT WOULD BE . . . , and therefore, the expanded nominalization of TO PROCEED to PROCEEDINGS seems the way to interpret sentence (325). Sentences like (325), containing the NP + infinitival (PROCEEDINGS TO HAVE HIM REMOVED FROM OFFICE), are considered examples of REIFICATION infinitival-clauses that have been expanded to general NP plus an infinitival apposition-clause.

Reductions of PURPOSIVE-clauses sometimes result in prepositional phrases, like FOR YOUR PLEASURE in this seventh grader's sentence:

(326) THE SCHOOL I GO TO ALWAYS HAS GROUP ACTIVITIES FOR YOUR PLEASURE . . .

in which no verbal element is left after the reduction has occurred. As we noted in previous examples of reduced restrictive clauses that retain no trace of the original VP element, we will not consider prepositional phrases like FOR YOUR PLEASURE as examples of *reduced* PURPOSIVE-clauses.

*Causation relationships of causality.*--Distinguishing the semantic CAUSALITY relationship of strict CAUSATION from that of EXPLANATION is almost impossible in student sentences containing BECAUSE-clauses, for, as Poutsma points out,

> . . . the relations of cause, reason, or ground are not clearly discriminated by ordinary speakers and writers, and [therefore] the same conjunctives are used for all three. (8, p. 680)

All BECAUSE-clauses are taken as examples of the semantic relationship EXPLANATION, for it seemed that student writers were perhaps even more likely than ordinary speakers and writers not to make the distinctions between CAUSATION and EXPLANATION.

There were, however, a few syntactic constructions that seemed clearly to be results of CAUSATION relationships--namely, those relationships that

> . . . denote an occurrence or action whose effect on the person concerned is expressed by the main clause . . . [where] the verb of the main clause expresses a feeling or action that is the result of such a feeling . . . . (9, p. 411)

These strict CAUSATION relationships result in clauses that are introduced by THAT, as these students' sentences illustrate:

(327) I AM SO HAPPY THAT YOU ARE GOING TO LIVE BY ME

(328) I AM SO HAPPY THAT YOU ARE MOVING BACK TO YOUR OLD HOUSE

(329) I KNOW YOU WILL BE UNHAPPY THAT YOU ARE MOVING

though just as frequently the THAT is not expressed, as these students' sentences illustrate:

(330) I AM SO GLAD YOU ARE MOVING INTO MY NEIGHBORHOOD.

(331) I'M GLAD YOU'RE COMING TO OUR SCHOOL, ST. PHILIP.

(332) I'M AWFULLY GLAD YOU'RE COMING.

What is clear about these sentences is that the emotional feeling expressed in the main clauses (HAPPY, GLAD) is caused by the EVENT expressed in the subordinate clause. For example, sentence (327) is certainly equivalent in meaning to this:

(327A) BECAUSE YOU ARE GOING TO LIVE BESIDE ME, I AM SO HAPPY.

CAUSATION relationships also result in reduced CAUSAL-clauses, in which the CAUSATION signal is the preposition ABOUT and the VP has been reduced to a gerundive-clause, as these students' sentences illustrate:

(333) I HOPE YOU'RE NOT TOO SAD ABOUT MOVING.

(334) DON'T BE TOO UNHAPPY ABOUT MOVING.

Also among the reductions of CAUSAL-clauses are infinitival-clauses, such as appear in these student sentences:

(335) I AM GLAD TO HEAR THAT YOU WILL BE MOVING BACK TO HOLLY ROAD.

(336) . . . THE CROWD WAS ROARING TO SEE THE GREAT GORDY HOWE SCORE A GOAL.*

There seems to be a small subset of strict CAUSATION relationships that result from the relationship INSTRUMENT OF ACTIONS/EVENTS, the relationship in which the focus of the CAUSATION idea is upon the EVENT or ACTION that is instrumental in causing another EVENT or ACTION to occur. For example, this sixth grader's sentence can illustrate the syntactic result of an INSTRUMENTAL CAUSATION relationship:

(337) HE WAS IN WORLD WAR II AS A PT BOAT COMMANDER AND WHEN HIS BOAT WAS CUT IN HALF BY A JAP DESTROYER, HE SAVED HIS CREW'S LIVES BY SAFELY LEADING THEM TO AN ISLAND.

The INSTRUMENTAL EVENT that CAUSES the EVENT HE SAVED HIS CREW'S LIVES is the EVENT HE LED THEM SAFELY TO AN ISLAND. The syntactic representation of this INSTRUMENTAL EVENT is BY SAFELY LEADING THEM TO AN ISLAND, in which the preposition BY, meaning BY MEANS OF, introduces the reduction of the complete INSTRUMENTAL-clause to a gerundive-clause SAFELY LEADING THEM TO AN ISLAND. As far as we can tell, this reduced INSTRUMENTAL-clause--the gerundive-clause--introduced by BY is the syntactic form this relationship always results in, as these students' sentences illustrate:

(338) I GET A LOT OF MONEY BY BABY-SITTING THEM.

(339) BY REMOVING SOMEONE FROM OFFICE YOU MIGHT HURT HIS OR HER FEELINGS AND REPUTATION, BUT YOU CAN'T HAVE ONE PERSON . . . RUNNING EVERYTHING . . . .

(340) . . . THE OTHER STUDENTS COULD TEACH HIM TO BE MORE RESPONSIBLE BY HELPING HIM OUT.

The only difficulty we have discovered in students' use of these reduced INSTRUMENTAL-clauses can be illustrated by this tenth grader's sentence:

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*It is not clear why the infinitive is a reduction form for this relationship, since the prepositional infinitive TO + V generally signals that the ACTION of the infinitive-clause is either future-oriented or at least a contingent ACTION. However, the ACTIONS of the VP in these infinitival-clauses are quite clearly past ACTION (I HEARD, THEY SAW).

(341) *THE SCHOOL WILL ALSO PROGRESS BY GETTING THE WORK DONE.

From the content of the student's essay, it is clear that he means that the work is to be done by BOB, not THE SCHOOL; however, the effect of the gerundive-clause GETTING THE WORK DONE is to impute the WORK'S GETTING DONE to THE SCHOOL. In gerundive-clauses like these, the ACTOR of the INSTRUMENTAL-clause can be deleted in the reduction process only if it is identical with the ACTOR of the main clause. Therefore, the reduction of the INSTRUMENTAL-clause in sentence (341) should have retained the ACTOR, since it was not identical with the ACTOR of the main clause, as this sentence illustrates:

(341A) THE SCHOOL WILL ALSO PROGRESS BY BOB'S (HIS) GETTING THE WORK DONE.

Occasionally, gerundive-clauses are introduced by WITH, instead of BY:

(342) I THINK THAT IF HE, BOB, WAS THREATENED WITH LOSING HIS JOB HE WOULD PROBABLY BUCKLE DOWN AND DO SOME WORK . . . .

This probably happens in sentences which are passive-transforms, like (342), in which the BY meaning BY MEANS OF is converted to WITH to prevent conflicting with the BY-phrase introducing the ACTOR of the EVENT. This is especially true in sentences like (342) when the passive BY-phrase identifying the ACTOR of the original sentence has been deleted. LOSING HIS JOB is not the ACTOR; it is the INSTRUMENTAL CAUSE by which someone has threatened BOB in order to get him to do his work. If the WITH-gerundive-clause is clear enough in sentence (342), it is not so clear in this sixth grader's sentence:

(343) ?ATLAS IS A MAN MADE OUT OF STEEL; WITH THE SWING OF HIS HAND HE CAN SMASH A SOLID BRICK INTO FRAGMENTS.

In this sentence the WITH-clause is ambiguous, since the WITH can be interpreted both as BY MEANS OF and as IN THIS MANNER. In short, we cannot determine whether WITH THE SWING OF HIS HAND resulted from an INSTRUMENTAL CAUSATION relationship or a MANNER OF ACTIONS/EVENTS relationship, since HIS SWINGING HIS HAND can tell us either HOW he did it, or BY WHAT MEANS he caused it.

Real event-consequence relationships of causality.--The semantic CAUSALITY relationship of REAL EVENT-CONSEQUENCE differs from the relationship of CAUSATION in at least three ways: (1) CONSEQUENCES are not the necessary and inevitable results that

EFFECTS produced by CAUSES are; (2) CONSEQUENCES are the ultimate results of some REAL EVENTS that trigger other intermediary chains of EVENTS before the CONSEQUENCE is arrived at; and (3) CONSEQUENCES are often conclusions and inferences that result from a complex series of deductive arguments arising from the initial REAL EVENT that itself may be cognitive or affective rather than purely physical. The syntactic connectives that result from these REAL EVENT-CONSEQUENCE relationships are of two types: (1) coordinative, like AND SO, AND THUS, THEREFORE, and CONSEQUENTLY; and (2) hypotactic, like SINCE . . . THEN and NOW THAT . . . THEN.

The REAL EVENT-CONSEQUENCE relationships involving results that do not inevitably and invariably follow from the initial occurrence can be illustrated by this seventh grader's sentence:

(344) MY MOM'S CALLING ME TO EAT NOW SO (=THEREFORE) I MUST GO

in which the REAL EVENT (MY MOM'S CALLING ME TO EAT NOW) is not one that would invariably lead to the CONSEQUENCE (I MUST GO) everytime it occurs; it does so on this occasion, and this is what differentiates CAUSATION relationships from CONSEQUENCE ones: CONSEQUENCE relationships are more or less unique for particular circumstances and cannot be generalized into CAUSE-AND-EFFECT situations. For example, this seventh grader's sentence:

(345) WHEN WE GOT TO THE GAS STATION THEY DID NOT HAVE ANY PATCHES SO (=THEREFORE) ON HOME [WE] WALKED

contains a particular, unique set of EVENTS: the REAL EVENT leads to the CONSEQUENCE only on this one occasion and does not guarantee that it ever would again. This type of CONSEQUENCE relationship, furthermore, expresses no necessary cause-and-effect between the EVENT-clause and the CONSEQUENT-clause--i.e., any number of other results may have occurred after the initial REAL EVENT; for example, in this seventh grader's sentence:

(346) THE LAST TIME WE PLAYED A BOY GOT HIT IN THE HEAD WITH A BAT SO (=THEREFORE) BRING A HELMET IF YOU HAVE ONE . . .

there are any number of other CONSEQUENCES the student might have come up with: THEREFORE, STAY HOME; or THEREFORE, DON'T PLAY BASEBALL WITH US WHEN YOU COME HERE; or THEREFORE, WE DON'T PLAY BASEBALL VERY MUCH ANY MORE. Likewise, the CONSEQUENCE in this seventh grader's sentence:

(347) I KNOW YOU'RE NOT CATHOLIC SO (=THEREFORE) IT WILL BE KIND OF HARD TO GO TO CHURCH TOGETHER . . .

is only one of many that might have resulted from the cognitive REAL EVENT (I KNOW YOU'RE NOT CATHOLIC).

The type of REAL EVENT-CONSEQUENCE relationship involving a chain of intermediate EVENTS before the ultimate result is arrived at can be illustrated by this seventh grader's sentence:

(348) MY MOTHER HAS BRIDGE EVERY FRIDAY NIGHT SO (=THEREFORE) MAYBE YOU COULD SPEND THE NIGHT WITH ME AND WE COULD STAY UP REAL LATE.

Several intermediate EVENTS must transpire before the CONSEQUENCE of sentence (348) could be realized: (1) MY PARENTS MUST GIVE ME PERMISSION TO HAVE YOU AS AN OVERNIGHT GUEST ON WEEKENDS, (2) YOUR PARENTS MUST ALLOW YOU TO SPEND THE NIGHT AT MY PLACE, (3) MY PARENTS (OR MY MOTHER AT LEAST) MUST ALLOW ME TO HAVE AN OVERNIGHT GUEST ON AN EVENING THAT SHE'S GOING TO BE OUT LATE. Similarly, before the CONSEQUENCE can be realized in this seventh grader's sentence:

(349) YOU'LL PROBABLY BE GOING TO HILLTONIA JUNIOR HIGH SCHOOL SO (=THEREFORE) YOU CAN HANG AROUND ROXANNE

several other EVENTS must first occur: (1) YOU WILL MEET PEOPLE WHEN YOU ATTEND HILLTONIA HIGH SCHOOL, (2) AMONG THESE PEOPLE WILL BE ROXANNE, (3) ROXANNE WILL LIKE YOU, (4) YOU WILL LIKE ROXANNE, (5) ROXANNE WILL LIKE HAVING YOU IN HER COMPANY, (6) YOU WILL WANT TO BE WITH ROXANNE. Varying numbers of intermediate EVENTS can intervene between REAL EVENTS and their ultimate CONSEQUENCES in this type of relationship; only one other EVENT seems to mediate between the EVENT and CONSEQUENCE of this sixth grader's sentence:

(350) WATER SKIING IS MY FAVORITE SPORT, SO (=THEREFORE) THAT IS WHY I WOULD LIKE TO SKI LIKE HIM

and that is some EVENT like HE WATER-SKIS EXTREMELY WELL.

The third type of REAL EVENT-CONSEQUENCE relationship, the one involving conclusions and inferences that follow from a series of deductive arguments arising from the initial REAL EVENT, can be illustrated with this sentence, which closes the essay of an eleventh grader:

(351) AND SO (=THEREFORE) THROUGH LOGICAL EXPLANATIONS I REASON THAT AT THE AGE OF 15½ OR 16 THE TEENAGER IS AND SHOULD BE TREATED AS A YOUNG ADULT.

The LOGICAL EXPLANATIONS refer to the arguments the student has put forth in the rest of his essay, and he arrives at a conclusion as a result of these arguments; this conclusion is presented as a logical CONSEQUENCE of a long series of cognitive EVENTS and is introduced by the CONSEQUENCE connective AND SO (=THEREFORE). Similarly, this sixth grader's sentence:

(352) THEREFORE (=CONSEQUENTLY), I AM IN FAVOR OF LONG VACATIONS FOR HEALTH REASONS

is a conclusion (CONSEQUENCE) that is drawn by the student after enumerating in previous sentences a number of HEALTH REASONS. Another expression used by students in their summary statement at the end of their essays is illustrated in this eighth grader's sentence:

(353) SO YOU SEE, EDOUARD, YOUR FRIEND WASN'T ALL RIGHT ABOUT FAMILY LIFE AND LOVE HERE IN AMERICA

in which the connective SO meaning THEREFORE or CONSEQUENTLY is followed immediately by YOU SEE meaning YOU CAN SEE FROM ALL THESE POINTS I'VE BEEN MAKING. Sometimes the conclusion statement in these REAL EVENT-CONSEQUENCE relationships contains some measure of reassurance for the intended reader, as these seventh graders' sentences illustrate:

(354) SO (=THEREFORE) DO NOT WORRY BECAUSE I KNOW YOU WILL LIKE IT HERE, AND I'LL BET YOU [WILL] HAVE AT LEAST ONE FRIEND BY THE END OF THE WEEK.

(355) SO (=THEREFORE) I'M SURE THAT YOU'LL HAVE A LOT OF FUN OUT HERE, AND IF [YOU] PLAY YOUR CARDS RIGHT YOU SHOULD GET MORE FRIENDS OUT HERE.

The student sentences we have examined do not contain many instances of their inappropriate use of the REAL EVENT-CONSEQUENCE connectives (AND) SO or (AND) THEREFORE. However, this seventh grader's sentence illustrates the conflict between the signal for this relationship and the semantic content of the apparent CONSEQUENCE-clause:

(356) *I HAVE A LOT OF NICE FRIENDS THAT I WOULDN'T WANT TO LEAVE, SO I'M SURE YOU'LL MAKE PLENTY OF FRIENDS, NO MATTER WHAT CLASS YOU GET IN [TO]

for it is not clear how the student's having A LOT OF NICE FRIENDS THAT HE WOULDN'T WANT TO LEAVE can have as its CONSEQUENCE the assurance he makes for his reader THAT YOU'LL MAKE PLENTY OF FRIENDS, NO MATTER WHAT CLASS YOU GET INTO. Perhaps the relationship involved here is EXPLANATION, rather than CONSEQUENCE; if so, it would be syntactically clear in a sentence like this one:

(356A) I'M SURE YOU'LL MAKE PLENTY OF FRIENDS, NO MATTER WHAT CLASS YOU GET INTO, BECAUSE (=FOR THE REASON THAT) I HAVE MADE A LOT OF NICE FRIENDS HERE THAT I WOULDN'T WANT TO LEAVE.

There are some student sentences in which the connective SO is ambiguous, because we cannot determine whether the SO is equivalent to THEREFORE or whether it is equivalent to SO THAT or IN ORDER THAT. We recall the sentence previously examined (YOUR NEW YARD IS FENCED IN SO YOUR DOG CAN RUN AROUND AND PLAY) in our discussion of PURPOSIVE relationships, in which it was not possible to determine whether the relationship is PURPOSIVE or REAL EVENT-CONSEQUENCE since FENCED IN is either passive ACTION (in which case, the relationship seems PURPOSIVE) or stative adjectival (in which case, the relationship seems CONSEQUENTIVE). There is a similar problem of interpretation in this seventh grader's sentence:

(357) ?THERE ARE MANY THINGS TO DO SO (?=THEREFORE, or ?=IN ORDER THAT) YOU WILL ALWAYS BE DOING SOMETHING

because it is not clear whether the SO-clause belongs to the reduced infinitival-clause (TO DO) or whether it is a CONSEQUENCE restriction on the NP MANY THINGS TO DO. It is not clear from which of the following sentences the student's sentence actually derives:

(357A) THERE ARE MANY THINGS THAT YOU CAN DO SO THAT (IN ORDER THAT) YOU WILL ALWAYS BE DOING SOMETHING.

(357B) YOU CAN DO MANY THINGS, AND SO (=THEREFORE) YOU WILL ALWAYS BE DOING SOMETHING.

Another kind of ambiguity arises in this student's sentence:

(358) ?OUR FAMILY TRIES TO EAT AT THE SAME TIME BUT SOME PEOPLE'S MOM AND DAD HAVE TO WORK LATE BECAUSE OF THEIR JOBS; IN THAT CASE MY SISTER FIXES THAT MEAL.

IN THAT CASE usually signals a CONTINGENT EVENT-CONSEQUENCE relationship when it is followed by a CONSEQUENCE-clause containing a modal auxiliary; for example, IN THAT CASE, YOU SHOULD NOT GO THERE ALONE is equivalent to IF THAT CASE (SITUATION) SHOULD PREVAIL, THEN YOU SHOULD NOT GO THERE ALONE. In sentence (358), the eighth grader has followed his connective IN THAT CASE with a tensed VP: MY SISTER FIXES THAT MEAL, suggesting a

CONSEQUENCE following from some REAL EVENT. The EVENT preceding the semicolon, however, is a REAL EVENT that could not have MY SISTER FIXES THAT MEAL as its CONSEQUENCE: SOME PEOPLE'S MOM AND DAD HAVE TO WORK LATE BECAUSE OF THEIR JOBS is not necessarily a reference to OUR FAMILY, but instead seems to refer to SOME OTHER PEOPLE'S FAMILY since it is presented in an OPPOSITION/CONTRAST relationship to OUR FAMILY TRIES TO EAT AT THE SAME TIME. Furthermore, it is not clear which meal THAT MEAL in the CONSEQUENCE-clause refers to since no particular meal is mentioned in either CONTRAST/OPPOSITION REAL EVENT that would account for the definite determiner THAT in THAT MEAL. If the relationship intended in the CONTRAST/OPPOSITION clauses had been something like this:

(358A) OUR FAMILY TRIES TO EAT AT THE SAME TIME BUT SOMETIMES MY MOM AND DAD HAVE TO WORK LATE BECAUSE OF THEIR JOBS . . .

then the CONSEQUENCE presented in sentence (358) would seem to logically follow, as in this sentence:

(358B) OUR FAMILY TRIES TO EAT AT THE SAME TIME BUT SOMETIMES MY MOM AND DAD HAVE TO WORK LATE BECAUSE OF THEIR JOBS; IN THAT CASE, MY SISTER FIXES THOSE MEALS.

So far, we have been examining students' use of the coordinative connectives in their REAL EVENT-CONSEQUENCE sentences, and they have been by far more common than the hypotactic connectives SINCE . . . THEN and NOW THAT . . . THEN. This seventh grader's sentence illustrates the use of NOW THAT . . . THEN:

(359) NOW THAT YOU ARE GONE WE [ARE] ALWAYS FIGHTING OVER ONE MAN BECAUSE YOU [HAD] MADE THE SIDES EVEN

which is equivalent to this sentence containing the coordinative connective SO (=THEREFORE):

(359A) YOU ARE GONE, AND SO (=THEREFORE) WE ARE ALWAYS FIGHTING OVER ONE MAN BECAUSE YOU HAD MADE THE SIDES EVEN.

This tenth grader's sentence illustrates the use of SINCE . . . THEN as the connective for a REAL EVENT-CONSEQUENCE relationship:

(360) . . . AND SINCE THERE IS NO ACCURATE ACCOUNTING IT COULD BE EASY FOR ANY LOAFER TO DO (=TO EMBEZZLE MONEY FROM THE TREASURY)

which is equivalent to this one with the coordinative connective SO (=THEREFORE):

(360A) . . . THERE IS NO ACCURATE ACCOUNTING, AND SO (=THEREFORE) IT COULD BE EASY FOR ANY LOAFER TO DO.

Because SINCE . . . THEN often appears as a REAL EVENT-CONSEQUENCE connective as just SINCE, and because SINCE is sometimes equivalent to BECAUSE in EXPLANATORY relationships, each occurrence of SINCE must be tested, just as each appearance of SO must be, to see which of the two possible relationships it signals. In these student sentences:

(361) . . . IT WOULD BE BETTER FOR BOB TO QUIT SINCE HE'D RATHER BE POPULAR THAN TO BE TREASURER

(362) SINCE HE HAD BEEN GIVEN WARNINGS HIS WAYS SHOULD HAVE CHANGED

(363) SINCE BOB IS A SENIOR I THINK HAVING ANOTHER STUDENT HELP HIM IS BETTER THAN KICKING HIM OUT

SINCE seems to be equivalent to BECAUSE (=FOR THE REASON THAT), rather than equivalent to THEREFORE. One test of which relationship is involved might be the "THING"-cleft version that sentences containing SINCE transform into, for if the relationship is EXPLANATION, the "THING" becomes the "REASON," while if the relationship is REAL EVENT-CONSEQUENCE, the "THING" becomes the "CONSEQUENCE" or the "RESULT." For example, the "THING"-cleft of sentence (361) above would become:

(361A) THE REASON THAT IT WOULD BE BETTER FOR BOB TO QUIT IS THAT HE'D RATHER BE POPULAR THAN TO BE TREASURER . . .

but not:

(361B) *THE CONSEQUENCE OF BOB'S PREFERRING TO BE POPULAR RATHER THAN TREASURER IS THAT IT WOULD BE BETTER FOR BOB TO QUIT.

Similarly, sentences (362) and (363) convert into "REASON"-clefts, not "CONSEQUENCE"-clefts:

(362A) THE REASON THAT HIS WAYS SHOULD HAVE CHANGED IS THAT HE HAD BEEN GIVEN WARNINGS.

(363A) THE REASON THAT I THINK HAVING ANOTHER STUDENT HELP HIM IS BETTER THAN KICKING HIM OUT IS THAT BOB IS A SENIOR.

There are sentences, however, in which SINCE seems to convert into both "THING"-clefts; for example, this seventh grader's sentence:

(364) SINCE IT IS SO NEAR TO US IT ONLY TAKES US ABOUT FIVE MINUTES TO GET THERE

converts into an acceptable "REASON"-cleft:

(364A) THE REASON THAT IT ONLY TAKES US ABOUT FIVE MINUTES TO GET THERE IS THAT IT IS SO NEAR TO US

or an acceptable "CONSEQUENCE"-cleft:

(364B) THE CONSEQUENCE OF ITS BEING SO NEAR TO US IS THAT IT ONLY TAKES US ABOUT FIVE MINUTES TO GET THERE.

When we apply the "THING"-cleft to sentence (360) above, we find that our earlier analysis of the interpretation of SINCE is only half-true, because while this sentence converts into an acceptable "CONSEQUENCE"-cleft:

(360B) THE CONSEQUENCE OF THERE BEING NO ACCURATE ACCOUNTING IS THAT IT COULD BE EASY FOR ANY LOAFER TO EMBEZZLE MONEY FROM THE TREASURY . . .

it also converts into an acceptable "REASON"-cleft:

(360C) THE REASON THAT IT COULD BE EASY FOR ANY LOAFER TO EMBEZZLE MONEY FROM THE TREASURY IS THAT THERE IS NO ACCURATE ACCOUNTING.

SINCE in sentences like (360) and (364) is ambiguous, for without an accompanying THEN, it can indicate either of these relationships: EXPLANATION or REAL EVENT-CONSEQUENCE.

Reduced REAL EVENT-CONSEQUENCES result in sentences like this one:

(365) HE TOLD ME TO LEAVE THE ROOM, SO I DID

in which the VP of the CONSEQUENCE-clause is the pro-verb DID, reduced from LEFT THE ROOM. In the hypotactic reductions, the REAL EVENT-clause often has its VP converted into a gerundive, so that a sentence like:

(N) SINCE HE IS CAREFREE, HE COULD BE EMBEZZLING FROM THE TREASURY can be reduced to:

(O) BEING CAREFREE, HE COULD BE EMBEZZLING FROM THE TREASURY

as this sentence by a tenth grader illustrates:

(366) I WOULD THROW BOB DEVON OUT OF OFFICE, BECAUSE BEING CAREFREE, HE COULD BE EMBEZZLING FROM THE TREASURY, AND SINCE THERE IS NO ACCURATE ACCOUNTING IT COULD BE EASY [FOR] ANY LOAFER TO DO.

As noted in the discussion of CATEGORY EXPANSION, students often coordinate ACTIONS or EVENTS even when it seems more likely that the relationship between them is REAL EVENT-CONSEQUENCE. For example, this sixth grader's sentence:

(367) *HIS MOM WENT TO KISS HIM AND WELL, YOU KNOW

seems equivalent to this:

(376A) HIS MOM WENT TO KISS HIM AND WELL, YOU KNOW THE RESULT (THE CONSEQUENCE): HE WOULDN'T LET HER KISS HIM.

There seems to be no CATEGORY EVENT that we can discover that would account for these two EVENTS being coordinated as if they resulted from a CATEGORY EXPANSION; therefore, we consider this coordination inappropriate. Similarly, a sentence like this one written by another sixth grader:

(368) *LAST YEAR CARL HIT 44 [HOMERUNS] AND TIED HARMON KILLEBREW FOR THE MOST [HITS IN ONE SEASON]

contains a VP coordination that seems to have resulted from a REAL EVENT-CONSEQUENCE relationship, rather than CATEGORY EXPANSION, for sentence (368) seems to be equivalent to this one:

(368A) LAST YEAR CARL HIT 44 HOMERUNS AND THUS (=THEREFORE, SO, CONSEQUENTLY) TIED HARMON KILLEBREW FOR THE MOST HITS IN ONE SEASON.

In addition to using inappropriate connectives like AND in REAL EVENT-CONSEQUENCE, students also set sentences down paratactically, when the relationship appears clearly to be one of REAL EVENT-CONSEQUENCE, as in this pair of sentences by a seventh grader:

(369) WE BUILT A NEW BEDROOM ONTO OUR HOUSE. NOW I DON'T HAVE TO SHARE MY ROOM WITH ANYBODY . . . .

The first sentence is the REAL EVENT and the second is the CONSEQUENCE, a relation which could be equivalently represented in this way:

(369A) NOW THAT WE BUILT A NEW BEDROOM ONTO OUR HOUSE, I DON'T HAVE TO SHARE MY ROOM WITH ANYBODY . . . .

The first sentence of this pair, written by another seventh grader:

(370) FIRST TIME WE RAIDED IT HE CAME OUT WITH HIS OLD SHOTGUN WITH SALT IN IT

is followed by this second sentence: WORDS AND SALT WERE EVERYWHERE. The relationship between these two sentences seems unmistakably REAL EVENT-CONSEQUENCE, and seems equivalent to this one:

(370A) FIRST TIME WE RAIDED IT HE CAME OUT WITH HIS OLD SHOTGUN WITH SALT IN IT, AND SO WORDS AND SALT WERE EVERYWHERE.

Here the precise semantic relationship is made syntactically clear. The first sentence of this paratactic pair:

(371) GORDY IS THIRTY-FOUR OR -FIVE, HE WILL PROBABLY RETIRE FROM HOCKEY IN A FEW MORE YEARS . . .

seems to lead clearly to the CONSEQUENCE of the second sentence. In analyzing sentences like (370) and (371) we could only consider them inappropriate paratactic sentences (i.e., "run-on" sentences) in which no semantic relationship was made clear by the students writing them.

There is a special subset of REAL EVENT-CONSEQUENCE relationships that denote the DEGREE OF INTENSITY OF ACTIONS/EVENTS that are responsible for producing CONSEQUENCE EVENTS. These DEGREE OF INTENSITY-CONSEQUENCE relationships result in syntactic representations like the one in this seventh grader's sentence:

(372) WHEN YOU GET HERE WE'LL KEEP YOU SO BUSY YOU WON'T HAVE TIME TO MISS YOUR OLD HOME

in which the DEGREE OF INTENSITY is expressed as SO BUSY and its CONSEQUENCE is (THAT) YOU WON'T HAVE TIME TO MISS YOUR OLD HOME. The verbal adjective has been intensified in the following student sentences, some of whose CONSEQUENCES are introduced by THAT and others whose CONSEQUENCES immediately follow the intensified verbal adjective:

(373) THE SCHOOL WHERE YOU AND I GO HAS A REAL NICE PLAYGROUND AND IT'S SO CLOSE THAT WE PLAY THERE LOTS OF THE TIME.

(374) HE IS SO NICE THAT IF SOMEBODY DOES NOT LIKE HIM [HE] MUST NOT BE A HAPPY PERSON . . . .

(375) HE IS SO FAT FROM EATING ALL THE CANDY (THAT) HE CANNOT PLAY ALL THE SPORTS WE PLAY VERY EASILY.

SO is not the only signal for DEGREE OF INTENSITY; SUCH and SO MUCH are also INTENSITY-signals, as these student sentences illustrate:

(376) ALSO YOU CAN'T JUST SIT IT OUT, BECAUSE YOUR SCHOOL WILL BE IN SUCH A MESS THE FOLLOWING YEAR (THAT) THE NEW PEOPLE WON'T KNOW WHERE TO START.

(377) . . . HE WOULDN'T DO ANYTHING BECAUSE HE'S BEEN PUSHED SO MUCH FROM OTHER SOURCES THAT HE DOESN'T FEEL LIKE DOING IT.

Another signal for DEGREE OF INTENSITY is ENOUGH followed by a reduced CONSEQUENCE-clause, as these student sentences illustrate:

(378) WHEN THE TEENAGER IS ABLE TO BUY AND SHARE IN THE COST OF LIQUOR LEGALLY, THEN HE IS OLD ENOUGH TO BE AN ADULT.

(379) . . . IN MANY STATES THEY WILL NOT LET YOU VOTE UNTIL YOU ARE 21 . . . BECAUSE THEY THINK THAT YOU ARE NOT MATURE ENOUGH TO ACCEPT THE RESPONSIBILITY OF VOTING.

(380) . . . IT JUST SHOWS THAT YOU WERE LUCKY ENOUGH TO MAKE IT THROUGH TWELVE YEARS OF SCHOOLING.

In these sentences, the reduction of the CONSEQUENCE-clause from its complete form results in infinitival-clauses, since the complete clause contains a modal auxiliary; for example, (378) contains the infinitival-clause TO BE AN ADULT, undoubtedly reduced from THAT HE SHOULD BE AN ADULT, while (379) contains the infinitival reduction of THAT YOU COULD MAKE IT THROUGH TWELVE YEARS OF SCHOOLING. Some CONSEQUENCE-clauses are deleted entirely, leaving only the INTENSITY-signaller ENOUGH to express the relationship, as these student sentences illustrate:

(381) I HOPE I HAVE ANSWERED YOUR QUESTION WELL ENOUGH (TO SATISFY YOUR CURIOSITY).

(382) HIS SKIN IS A DEEP COPPERY COLOR, WHICH WOULD MAKE THE OTHER BOYS ENVIOUS, AND, WHEN I GET OLD ENOUGH (TO HAVE SKIN THAT SAME COLOR), THE GIRLS SWOON.

(383) I THINK TEENAGERS SHOULD BE TREATED LIKE ADULTS WHEN THEY THINK THEY ARE MATURE ENOUGH (TO BE CONSIDERED ADULTS) . . . .

There is still another DEGREE OF INTENSITY signal: TOO followed by a reduced CONSEQUENCE-clause of the complete infinitival-clause variety, FOR NP TO VP, as these student sentences illustrate:

(384) . . . TAKING A SHOT TOO HARD AND FAST FOR THE GOALIE TO STOP.

(385) WHEN HE SKATES DOWN THE ICE AND TAKES A HARD SHOT ON GOAL AND IS TOO FAST FOR THE GOALIE OR GOALTENDER TO STOP, IT'S A THRILL WHEN THE RED LIGHT FLASHES AND THE CROWD STANDS AND ROARS ITS APPLAUSE.

The infinitival-clause results from the reduction of a CONSEQUENCE-clause containing a modal auxiliary, but with an ACTOR different from the ACTOR of the DEGREE OF INTENSITY-clause, thus accounting for the FOR NP preceding the prepositional infinitive TO VP. Sentence (384)'s CONSEQUENCE-clause, before reduction to FOR THE GOALIE TO STOP, was undoubtedly something like THAT THE GOALIE CANNOT STOP IT, while (385)'s CONSEQUENCE-clause has been reduced to FOR THE GOALIE . . . TO STOP from THAT THE GOALIE CANNOT STOP HIM.

The difficulties that students have in producing DEGREE OF INTENSITY-CONSEQUENCE sentences arise from ambiguities in interpreting the intensifier SO. For example, this sixth grader's sentence:

(386) ?ANYWAY I CANNOT GET A BASEHIT IN A REAL GAME BECAUSE THE BALL GOES SO FAST AND I CAN'T SEE IT

contains the intensified ACTION, SO FAST, but instead of a CONSEQUENCE-clause, we find an apparent coordination of EXPLANATIONS. It is possible that the student has two REASONS why he CANNOT GET A BASEHIT IN A REAL GAME: (1) THE BALL GOES VERY FAST, and (2) I CAN'T SEE THE BALL. It is more likely though that the clause I CAN'T SEE THE BALL is a CONSEQUENCE of the speed of the ball, and that there is only one REASON: a DEGREE OF INTENSITY-CONSEQUENCE relationship, as made syntactically clear by this sentence:

(386A) ANYWAY I CANNOT GET A BASEHIT IN A REAL GAME BECAUSE THE BALL GOES SO FAST THAT I CAN'T SEE IT.

The selection of VERY instead of SO for intensified ACTIONS that do not have CONSEQUENCES would reduce the ambiguities of sentences like (386) above, and this one by a tenth grader:

(387) ?IF THE CLUB GOT SO UNORGANIZED THE STUDENT COUNCIL MIGHT CONSIDER DROPPING THE WHOLE CLUB.

The CONSEQUENCE-clause THE STUDENT COUNCIL MIGHT CONSIDER DROPPING THE WHOLE CLUB is ambiguous: it might have been the result of the entire CONTINGENT EVENT (IF THE CLUB GOT VERY UNORGANIZED), or it might have resulted from the INTENSIFIED ACTION (SO UNORGANIZED). If it does result from INTENSIFIED ACTION, then the CONSEQUENCE of the CONTINGENT EVENT-clause has been deleted or at least unrecorded; therefore, it is more likely that the relationship DEGREE OF INTENSITY-CONSEQUENCE is not involved in sentence (387), and thus the selection of the intensifier VERY would have made it syntactically clear that only CONTINGENT EVENT-CONSEQUENCE was involved. Finally, this eighth grader's sentence contains a triple ambiguity:

(388) ?HERE IN AMERICA IT'S NOT SO IMPORTANT THAT WE ARE ALL TOGETHER; IT'S JUST KNOWING THAT WE ALL CARE.

If the IT is a genuine pronoun--if its antecedent exists in a prior sentence--then perhaps the relationship signalled by SO IMPORTANT THAT is DEGREE OF INTENSITY-CONSEQUENCE. If the IT is a "dummy" pronoun--signalling the extraposition of a noun-clause to the terminal position of the sentence--then the relationship is REIFICATION, and sentence (388) is equivalent to this one:

(388A) THAT WE ARE ALL TOGETHER IS NOT VERY IMPORTANT HERE IN AMERICA; JUST KNOWING THAT WE ALL CARE IS (IMPORTANT).

If, in addition to the REIFICATION relationship above, there is also a COMPARISON relationship of inequality, then sentence (388) is equivalent to this sentence:

(388B) THAT WE ARE ALL TOGETHER IS NOT SO IMPORTANT HERE IN AMERICA AS IT IS IN EUROPE; JUST KNOWING THAT WE ALL CARE IS WHAT IS IMPORTANT HERE IN AMERICA.

In the sentences preceding this one in the student's essay, there is no apparent antecedent for the IT, thus making it likely that

IT is the extraposition signal. Either of the last two interpretations is still possible, for the focus of the essay is upon a comparison of family life in America with family life in Europe.

The only other difficulty we encountered with student sentences containing DEGREE OF INTENSITY relationships can be illustrated by this seventh grader's sentence:

(389) *IT'S CLOSE ENOUGH TO WALK

in which the preposition TO following WALK has been omitted. Since the IT refers to "A LOT OF LITTLE STORES" in the preceding sentence, we know that sentence (389) is equivalent to this one:

(389A) A LOT OF LITTLE STORES ARE CLOSE ENOUGH THAT YOU CAN WALK TO THEM.

We consider the omission of the preposition TO after WALK a transcription omission on the student's part, and not a faulty reduction of the CONSEQUENCE-clause in a DEGREE OF INTENSITY-CONSEQUENCE relationship.

Concession relationships of causality.--The final semantic relationship of CAUSALITY that we will examine is CONCESSION, in which the idea being expressed is something like this: some EVENT will occur even in the presence of some CAUSE(S) that might prevent its occurrence or make its occurrence highly unlikely or improbable. CONCESSION relationships result in clauses of three types, according to Kruisinga: (1) admitted concession; (2) open concession, usually with the mention of two alternatives (called by Poutsma disjunctive concession, or alternative hypothesis ( 8 )); and (3) rejected concession (9). We originally considered CONCESSION relationships to result in both coordinative connectives (BUT, AND YET, HOWEVER, THOUGH) and hypotactic connectives (ALTHOUGH, EVEN THOUGH, THOUGH, EVEN IF, EVEN WHEN, NO MATTER WHAT, WHETHER). A careful examination of sentences containing those coordinative connectives, especially BUT, convinced us that in no way did they differ from one of the three types of the conjunctive relationship CONTRAST/OPPOSITION--namely, arrestive adversative conjunction. When we look at the definition Poutsma has given for arrestive adversatives, "the second idea is the opposite of the consequence or conclusion expected from the first" (8, p. 590), we see the relationship is one of CAUSALITY and should be considered restrictive rather than conjunctive. Therefore we have decided to consider relationships signalled by the adversative connectives BUT (when it means HOWEVER), HOWEVER, YET, STILL, and THOUGH (when it means HOWEVER) as examples of CONCESSION relationships, rather than CONTRAST/OPPOSITION ones. Therefore, sentences (88)-(91) above will be considered as examples of CONCESSION, not CONTRAST/OPPOSITION.

For convenience' sake, we repeat those sentences here:

(88) HE IS VERY TALL BUT (=HOWEVER) NOT CLUMSY FOR SIZE.

(89) SANDY IS NOT TOO GOOD OF A BATTER BUT (=HOWEVER) I STILL LIKE HIM.

(90) OUR FAMILY TRIES TO EAT AT THE SAME TIME BUT (=HOWEVER) SOME PEOPLE'S MOM AND DAD HAVE TO WORK LATE . . . .

(91) IT IS TRUE THAT IN AMERICA WE WATCH TELEVISION AND GO TO PARTIES, BUT (=HOWEVER) WE STILL HAVE TIME TO BE . . . TOGETHER.

The type of CONCESSION relationship that sentences like (88)-(91) represent is most likely the third type mentioned by Kruisinga: the rejected concession, since the second clause in these sentences rejects the consequence or conclusion expected from the first clause by offering an opposing consequence or conclusion. For example, in this tenth grader's sentence:

(390) BOB HAS PROMISED TIME AFTER TIME THAT HE WOULD DO HIS WORK BUT (=HOWEVER) HE HASN'T BEEN DOING IT

the CONSEQUENCE we expect after the first main clause is that HE HAS DONE HIS WORK; this is rejected and its opposite HE HASN'T BEEN DOING IT clearly establishes the rejection of the expected CONSEQUENCE. Sentence (390) is equivalent in meaning to one containing the hypotactic connective EVEN THOUGH:

(390A) EVEN THOUGH BOB HAS PROMISED TIME AFTER TIME THAT HE WOULD DO HIS WORK, HE HASN'T BEEN DOING IT.

Similarly, this tenth grader's sentence:

(391) BY REMOVING SOMEONE FROM OFFICE YOU MIGHT HURT HIS OR HER FEELINGS AND REPUTATION, BUT (=HOWEVER) YOU CAN'T HAVE ONE PERSON . . . RUNNING EVERYTHING

is equivalent in meaning to this one:

(391A) EVEN THOUGH YOU MIGHT HURT SOMEONE'S FEELINGS AND REPUTATION BY REMOVING HIM (OR HER) FROM OFFICE, YOU CAN'T HAVE ONE PERSON . . . RUNNING EVERYTHING FOR THE WHOLE STUDENT BODY.

It seems clear enough from these examples that the adversative connectives (BUT, HOWEVER, YET, STILL, THOUGH) are the paratactic (coordinative) signals for CONCESSION relationships of the rejected concession type.

Since Kruisinga has included those concession clauses in which the speaker has expressed improbability rather than rejection under the rubric rejected concession (9), we find that these students' sentences illustrate the hypotactic connectives as CONCESSION signals:

(392) . . . WHENEVER HE SEES SOMEONE IN TROUBLE, EVEN IF IT IS A LITTLE THING, HE WILL HELP [HIM] OUT.

(393) HE MANAGES TO KEEP HIS SPIRITS UP EVEN WHEN HE IS BEHIND.

In these sentences we find the improbability of the CONCESSION being represented in the connectives preceded by EVEN (EVEN IF, EVEN WHEN, EVEN BEFORE). Another of these improbability CONCESSION connectives is NO MATTER WHAT (WHEN, HOW, WHERE, . . .), as these students' sentences illustrate:

(394) . . . SO I'M SURE YOU'LL MAKE PLENTY OF FRIENDS, NO MATTER WHAT CLASS YOU GET IN [TO].

(395) BUT IF HE WOULD NOT WORK, NO MATTER HOW MUCH PERSUASION OR COAXING THEY TRIED, THEY SHOULD START PROCEEDINGS TO REMOVE HIM FROM OFFICE

Admitted concession clauses deal with the CONCESSION relationship in which the speaker admits the truth of some prior condition that might seem to preclude the consequence or conclusion he's about to come to, as these students' sentences illustrate:

(396) EVEN THOUGH (IT MIGHT BE TRUE THAT) A TEENAGER IS SELF-SUPPORTED AND DOESN'T NEED TO ASK HIS PARENTS FOR MONEY, (IT IS NEVERTHELESS TRUE THAT) HE STILL NEEDS HIS PARENTS FOR A HOME TO LIVE IN AND A BED TO SLEEP IN.

(397) THERE IS ALSO A TENNIS COURT IN WESTGATE PARK WHERE WE HAVE A LOT OF FUN, EVEN THOUGH (IT IS TRUE THAT) NONE OF US KNOWS HOW TO PLAY VERY WELL.

(398) OUR FAMILY GOES MANY PLACES TOGETHER, ALTHOUGH (IT IS TRUE THAT) I SOMETIMES DON'T GO SOME OF THE PLACES MY FAMILY GOES BECAUSE I HAVE TO GO TO A FOOTBALL GAME.

(399) DESPITE (THE FACT THAT IT IS TRUE THAT) SEVERAL WARNINGS HAVE BEEN GIVEN TO HIM FROM THE STUDENT COUNCIL, HE HAS STILL NEGLECTED THE RESPONSIBILITIES OF HIS JOB.

The open concession relationships that we have found in student sentences are of the alternative concession variety, as this tenth grader's sentence illustrates:

(400) I THINK ASKING ANOTHER STUDENT TO HELP HIM WITH HIS DUTIES MIGHT HELP, BUT (=ON THE OTHER HAND) IT MIGHT NOT; IT JUST DEPENDS ON WHETHER BOB REALLY WANTS THIS JOB OR NOT.

The alternatives of the CONCESSION relationship indicated by the VP JUST DEPENDS ON are introduced by the connective WHETHER and are frequently concluded with the DISJUNCTIVE connective OR; the second alternative, when it is the opposite of the first, is generally reduced to the simple NEGATION word NOT. We like Poutsma's term for this type of CONCESSION relationship: disjunctive concession, since it indicates quite clearly that there are two semantic relationships in WHETHER . . . OR NOT clauses: DISJUNCTION and CONCESSION. Therefore, we will use this term, disjunctive concession, for what Kruisinga calls open concession, since the only difference we can see in the examples he quotes:

(P) THOUGH HE MAY HAVE SPOKEN THE TRUTH I CAN HARDLY THINK IT PROBABLE

(Q) WHETHER OR NOT WE AGREE WITH ALL HE SAYS, THE REASONABLENESS AND FORCE OF HIS ARGUMENT MUST BE ADMITTED (9, p. 417)

is whether the opposite alternative is implicit, as it is in (P), or explicit, as it is in (Q).

The difficulties that students have with CONCESSION relationships invariably has occurred with the coordinative connective BUT, meaning HOWEVER, the signal for the rejected concession type of CONCESSION relationships. Instead of BUT (=HOWEVER), students sometimes use AND, the coordinating connective signalling CATEGORY EXPANSION; for example, in this seventh grader's sentence:

(401) *I HEAR THAT YOU ARE MOVING AND YOU DON'T WANT TO MOVE BECAUSE YOU LIKE WHERE YOU ARE NOW

the coordinating AND seems to suggest that I HEARD two things: (1) THAT YOU ARE MOVING, and (2) THAT YOU DON'T WANT TO MOVE BECAUSE YOU LIKE WHERE YOU ARE NOW. The negativeness of YOU

DON'T WANT TO MOVE . . . seems to place it in opposition to YOU ARE MOVING, and is therefore the opposite of the consequence or conclusion we are led to expect from the first idea YOU ARE MOVING. This rejected concession relationship would have been syntactically clearer in sentences like these:

(401A) I HEARD THAT YOU ARE MOVING BUT DON'T WANT TO BECAUSE YOU LIKE IT WHERE YOU ARE NOW.

(401B) I HEARD THAT YOU ARE MOVING AND THAT YOU DON'T, HOWEVER, WANT TO BECAUSE YOU LIKE IT WHERE YOU ARE NOW.

In addition to using inappropriate connectives to signal rejected concession relationships, students sometimes use rejected concession connectives when the content of their sentences reveals that some other relationship is probably involved. For example, consider this tenth grader's pair of sentences:

(402) SINCE BOB IS A SENIOR I THINK HAVING ANOTHER STUDENT HELP HIM IS BETTER THAN KICKING HIM OUT. *BUT THE OTHER STUDENT SHOULD NOT DO ALL THE WORK BUT JUST GIVE BOB A LITTLE PUSH ONCE IN A WHILE.

The second sentence seems to present the opposite of what we are led to expect from the first, but it seems to us more likely that the second sentence explains what was meant by HELP HIM in the first sentence. This EXPLANATION relationship could have been made syntactically clear by this sentence:

(402A) SINCE BOB IS A SENIOR I THINK HAVING ANOTHER STUDENT HELP HIM IS BETTER THAN KICKING HIM OUT. WHAT I MEAN BY HELP IS THAT THE OTHER STUDENT SHOULD NOT DO ALL THE WORK BUT JUST GIVE BOB A LITTLE PUSH ONCE IN A WHILE.

In this fifth grader's sentence:

(403) *JOHN, THE OLDEST, JUST CAME HOME FROM VIETNAM, BUT NOW HE IS STATIONED AT CHERRY POINT, NORTH CAROLINA

the content of the two main clauses and the presence of NOW suggest that the relationship between them is TEMPORAL SEQUENCE, rather than rejected concession as signalled by BUT. If the relationship is TEMPORAL SEQUENCE, then it could have been syntactically clear in a sentence like this:

(403A) JOHN, THE OLDEST, JUST CAME HOME FROM VIETNAM, AND NOW HE IS STATIONED AT CHERRY POINT, NORTH CAROLINA.

If, on the other hand, the relationship intended was rejected concession, then perhaps what opposed the first idea of JOHN, THE OLDEST, JUST CAME HOME FROM VIETNAM was some idea like HE ISN'T HOME NOW, in which case HE IS NOW STATIONED IN CHERRY POINT, NORTH CAROLINA explains why, as this sentence would make syntactically clear:

(403B) JOHN, THE OLDEST, JUST CAME HOME FROM VIETNAM, THOUGH HE ISN'T HOME NOW BECAUSE HE IS STATIONED IN CHERRY POINT, NORTH CAROLINA.

In this seventh grader's sentence:

(404) *MY OLDER BROTHER CHUCK WILL GO THERE THIS YEAR BUT MARY WILL GO THERE THE YEAR AFTER THAT

the content of the two main clauses and the time phrases THIS YEAR in the first and THE YEAR AFTER THAT suggest that the relationship is TEMPORAL SEQUENCE, rather than the rejected concession signalled by BUT. The following sentence would make the TEMPORAL SEQUENCE relationship syntactically clear:

(404A) MY OLDER BROTHER CHUCK WILL GO THERE THIS YEAR AND THE YEAR AFTER THAT MARY WILL GO THERE.

Ambiguity of interpretation can arise in a sentence like this seventh grader's:

(405) ?I THINK SHE'S PRETTY GOOD, BUT WHEN SHE GETS MAD YOU'D BETTER WATCH OUT.

It cannot be determined whether the relationship signalled by the connective BUT is rejected concession or CONTRAST/OPPOSITION--i.e., whether BUT is equivalent to HOWEVER or ON THE OTHER HAND. Since the SHE refers to the student's teacher, whether BUT is equivalent to HOWEVER or ON THE OTHER HAND depends upon whether the student means by GOOD the teacher's disposition or her teaching skill. If he means that her disposition is pleasant, then BUT is probably equivalent to ON THE OTHER HAND, forming a contrast to her generally pleasant behavior WHEN SHE GETS MAD. If, however, he means that her teaching skill is excellent, then BUT is probably equivalent to HOWEVER, forming an opposite consequence or conclusion to what we've been led to expect from being told she's PRETTY GOOD. There is probably no way to resolve this ambiguity without consulting the student as our resource, making him aware of the ambiguity he has unintentionally created for us as readers.

Semantic relationships of quality.--Semantic relationships that deal with the quality of experiences seem to be of two types: (1) MANNER, and (2) COMPARISON. MANNER relationships express the QUALITY OF ACTIONS/EVENTS: what they are like or unlike, or what they are supposed to be like or unlike. COMPARISON relationships express proportional relationships that exist between OBJECTS, ACTIONS, or EVENTS: the equality or inequality of likeness or unlikeness, real or supposed. In addition, COMPARISON and MANNER relationships exist together on occasion, as when the MANNER relationships between ACTIONS/EVENTS are COMPARED with each other in some proportion.

Manner relationships of quality.--MANNER relationships describe HOW or IN WHAT WAY various ACTIONS or EVENTS occur; the most frequent syntactic signals for these QUALITY OF ACTIONS/EVENTS relationships are AS and LIKE, as these eighth grade sentences illustrate:

(406) A FEW WEEKS AGO WE INVITED THE WHOLE FAMILY TO A COOKOUT; WE ALL ENJOYED OURSELVES AS A HAPPY FAMILY SHOULD.

(407) INSTEAD OF WATCHING TELEVISION LIKE THEY SAY WE DO, WE USUALLY READ BOOKS TOGETHER.

(408) SOME DAYS WE'RE ALL OFF WORK, AND WE HAVE FUN TOGETHER AND STAY TOGETHER LIKE A FAMILY SHOULD.

Reduced MANNER-clauses seem to be the rule, rather than the exception, in the syntactic representation of MANNER relationships, as they will also be in the syntactic representation of COMPARISON relationships. This prevalence of reduced QUALITY-clauses over complete ones makes QUALITY relationships (both MANNER and COMPARISON) unique among restriction relationships. In sentences (406)-(408) above, the reductions take the form of pro-verbs for the original VP's of the MANNER-clauses, as SHOULD is a pro-VP for SHOULD ENJOY THEMSELVES in (406), DO is a pro-VP for WATCH TELEVISION in (407), and SHOULD is a pro-VP for SHOULD STAY TOGETHER in (408).

Although LIKE has been considered an inappropriate substitute for AS (and perhaps still is by prescriptive grammarians), we have chosen to consider them semantically synonymous in the sentences written by our project students, as sentences (407) and (408) above illustrate. In sentences like this, by a sixth-grade student, LIKE is nearly always the MANNER connective:

(409) I WOULD LIKE TO BE ABLE TO PASS LIKE HIM AND KNOW ALL OF THE PLAYS AND WHEN TO USE THEM . . .

and the MANNER-clause is nearly always reduced to an apparent prepositional phrase which is equivalent in meaning to AS HE DOES, where the pro-verb DO takes the place of the repetition of the main clause VP, as these student sentences illustrate:

(410) I WOULD LIKE THE ABILITY TO SKI LIKE HIM (=AS HE DOES).

(411) . . . BUT MOST OF ALL, BE ABLE TO SERVE MY COUNTRY LIKE HE DID (=AS HE SERVED IT).

(412) THEN ON CHRISTMAS EVE WE CAN TAKE A HIKE ON THE FROZEN ICE JUST LIKE WE USED TO (=JUST AS WE USED TO DO).

These MANNER-clauses that are reduced to apparent prepositional phrases must not be confused with genuine MANNER prepositional phrases that are not reductions at all; these genuine MANNER-phrases nearly always use AS as their connective and are equivalent in meaning to AS A UNIT (GROUP), as opposed to AS AN INDIVIDUAL, as these student sentences illustrate:

(413) HE WORKS AS A TEAM (=AS A UNIT) WITH HIS BROTHER DICK.

(414) WE HAVE A FAMILY CONVERSATION AND WE ACT AS A FAMILY (=AS A UNIT).

The difficulty that students seem to have with these LIKE HIM (or LIKE HE DID) MANNER-clause reductions is in the choice of determiner before NP's in those VP's they are describing the QUALITY of. For example, in this sixth grader's sentence:

(415) *IF I SHOULD EVER BE ABLE TO COMPETE IN THE OLYMPICS, I WOULD LIKE TO EARN THE GOLD MEDALS LIKE HE DID

the presence of the definite determiner THE before GOLD MEDALS makes a MANNER relationship impossible, for no one but Jean-Claude Killy (the NP-referent of HE in the MANNER-clause) can win the specific GOLD MEDALS that THE GOLD MEDALS has to mean. If the student meant to describe the MANNER in which he himself would like to win something (LIKE HE WON), then he should have referred to the NP as a generic NP--either A GOLD MEDAL or GOLD MEDALS--as this sentence makes syntactically clear:

(415A) IF I SHOULD EVER BE ABLE TO COMPETE IN THE OLYMPICS, I WOULD LIKE TO EARN GOLD MEDALS LIKE HE DID.

However, if the student had in mind that he wanted to win those specific gold medals that Jean-Claude Killy had already won, then a RESTRICTED OBJECT relationship is called for, as this sentence makes syntactically clear:

(415B) IF I SHOULD EVER BE ABLE TO COMPETE IN THE OLYMPICS, I WOULD LIKE TO EARN THE GOLD MEDALS THAT HE DID.

The choice of the determiner in the MANNER-clause reduction in this sixth grader's sentence:

(416) *JEAN CLAUDE EARNED HIS MEDALS LIKE A TRUE CHAMPION THAT HE WAS . . .

creates a similar interpretation problem, for without the restrictive relative clause THAT HE WAS, this sentence would be interpreted as containing a MANNER relationship:

(416A) JEAN CLAUDE EARNED HIS MEDALS LIKE A TRUE CHAMPION (=AS A TRUE CHAMPION DOES).

With the restrictive relative, however, A TRUE CHAMPION cannot be interpreted as a generic NP that can be used to describe the QUALITY of the experience JEAN CLAUDE EARNED HIS MEDALS (HOW, IN WHAT WAY). It becomes a non-generic NP equivalent in meaning to JEAN CLAUDE, which makes the sentence pointlessly redundant: JEAN CLAUDE EARNED HIS MEDALS LIKE JEAN CLAUDE DOES--telling us absolutely nothing about the MANNER in which he earns his medals that we don't already know. Either the restrictive relative must be deleted, or the relative converted into a conjunctive relative which merely further describes or explicates the OBJECT TRUE CHAMPION--if the MANNER relationship is to be meaningful, as these sentences make syntactically clear:

(416A) JEAN CLAUDE EARNED HIS MEDALS LIKE A TRUE CHAMPION . . . .

(416B) JEAN CLAUDE EARNED HIS MEDALS LIKE A TRUE CHAMPION, WHICH HE WAS, . . . .

There are MANNER-clauses that describe the QUALITY of an ACTION/EVENT as it is supposed to be like or unlike; these MANNER relationships usually result in reduced MANNER-clauses with the connectives AS or LIKE equivalent in meaning to AS IF IT WERE TRUE THAT, as these student sentences illustrate:

(417) WHENEVER HE IS ON THE COURT HE DOESN'T TRY TO ACT LIKE (=AS IF HE WERE) THE BEST PLAYER ON HIS SIDE.

(418) . . . WOULDN'T IT BE FUNNY IF THEY WERE STILL TREATED AND SPOKEN TO LIKE (=AS IF THEY WERE) LITTLE KIDS?

(419) USUALLY THE DECISION AS TO WHEN TEENAGERS SHOULD BE TREATED AS (=AS IF THEY WERE) ADULTS IS LEFT UP TO THE PARENTS.

The only difficulties we encountered with these supposition MANNER-clauses were the omission of the connective AS, AS IF, or LIKE in sentences like this seventh grader's:

(420) *THE CAR IS GETTING TO LOOK IT WENT THROUGH WORLD WAR III

in which the omission of some MANNER connective like AS, LIKE, or AS IF may be due to the student's haste in transcribing. Another difficulty arose from the ambiguity of LIKE in this sixth grader's sentence:

(421) ?HE JUST ACTS LIKE A GENTLEMAN AND ADMITS HE DID IT

in which the LIKE-phrase could be interpreted as equivalent to AS A GENTLEMAN DOES (ACT), or as equivalent to AS IF HE WERE A GENTLEMAN.

Still another syntactic representation of MANNER relationships are MANNER-clauses introduced by THE WAY (THAT), where THE WAY (THAT) is equivalent in meaning to HOW, as these students' sentences illustrate:

(422) LIFE IN AMERICA REALLY ISN'T [LIVED IN] THE WAY THAT YOU AND YOUR FRIENDS TALK ABOUT.

(423) I WOULD LIKE TO BE LIKE MICKEY MANTLE BECAUSE OF THE WAY HE PLAYS BASEBALL.

(424) MY DAD WORKS HARD EVERY DAY AS A SALESMAN AND WHEN HE COMES HOME, AND I HAVE A PROBLEM OR MY SISTERS [DO,] HE WILL GLADLY HELP US ANY WAY HE CAN.

MANNER-clauses introduced by THE WAY (THAT) or HOW often result when "THE THING"-cleft is produced as a variant of more straightforward representations of MANNER relationships. For example, these students' sentences:

(425) THIS IS HOW FAMILY LIFE IS HERE IN AMERICA

(426) JEAN CLAUDE EARNED HIS MEDALS LIKE [THE] TRUE CHAMPION THAT HE WAS; THIS IS THE WAY I WOULD LIKE TO WIN SOMETHING

are "THE THING"-cleft variations of:

(425A) FAMILY LIFE IN AMERICA IS LIVED IN THIS WAY (OR THESE WAYS).

(426A) . . . I WOULD LIKE TO WIN SOMETHING IN THIS WAY.

Just as some MANNER relationships that result in true prepositional phrases (as opposed to those pseudo-prepositional phrases that are reductions of MANNER-clauses) are introduced by WITH (WITHOUT), as in this sentence:

(R) HE ENTERED THE ROOM WITH EXTREME CARE

some MANNER relationships result in reduced MANNER-clauses introduced by WITH or WITHOUT, as these student sentences illustrate:

(427) [THE] SECOND TIME WE CAME HOME WITH OUR SHIRTS AND BASKETS STUFFED, AND WE FEASTED FOR WEEKS TO COME.

(428) SOME TEENAGERS GO ALL THE WAY THROUGH HIGH SCHOOL WITHOUT GROWING IN MATURITY.

The MANNER-clause reduction in sentence (427) results from something like IN SUCH A WAY THAT OUR SHIRTS AND BASKETS WERE STUFFED, and the reduced MANNER-clause in (428) results from IN SUCH A WAY THAT THEY DO NOT GROW IN MATURITY. The reduction process seems to convert IN SUCH A WAY THAT into WITH or WITHOUT (when the VP in the MANNER-clause is negated) and the complete VP into a gerundive (STUFFED, GROWING). If the reduction process converts the MANNER-clause VP into an NP, however, we have not considered the resulting prepositional phrase as a reduced MANNER-clause.

For example, the prepositional phrases in student sentences like these:

(429) . . . HE HANDLED ALL THINGS WITH GREAT KNOWLEDGE

(430) IN THE END IT WOULD BE MUCH WISER TO STRAIGHTEN OUT THE BUSINESS WITH THE HELP OF ANOTHER PERSON

resemble genuine MANNER-phrases like WITH EXTREME CARE in sentence (R). In short, it is difficult to determine whether prepositional phrases like those in (429) or (430) are simple lexical items for the student or whether they do, in fact, result from reductions of complete MANNER-clauses. So long as no verbal element is present in WITH-phrases, we will consider them genuine prepositional phrases and not as reduced ones from complete MANNER-clauses. Thus, sentences (429) and (430) will not be considered as containing MANNER-clause reductions, while sentences like these will:

(431) IF YOU CONTINUED ON WITHOUT DOING [ANY] THING, THE SCHOOL TREASURY, AND POSSIBLY THE SCHOOL, [WILL] BE IN UTTER CHAOS.

(432) . . . BOB WILL HAVE TIME TO SPEND WITH HIS FRIENDS AND MAINTAIN POPULARITY WITHOUT HAVING TO WORRY ABOUT HIS PRESENT JOB.

Not all clauses introduced by HOW or THE WAY are considered as resulting from MANNER relationships; for example, the HOW-clause in the eighth grader's sentence results instead from a REIFICATION relationship following the indirect-discourse VP TELL:

(433) WRITE AND TELL ME HOW YOUR FRIENDS FEEL ABOUT AMERICAN FAMILIES NOW.

Indirect-discourse verbs like TELL always involve SAYING SOMETHING (TO SOMEONE). What most frequently fills this SOMETHING-slot are entire EVENTS that undergo the nominalization conversion typical of REIFICATION relationships. Thus sentence (433) is equivalent in meaning to this one:

(433A) WRITE AND TELL ME SOMETHING: YOUR FRIENDS FEEL IN WHAT WAY ABOUT AMERICAN FAMILIES NOW

which after nominalization and embedding becomes:

(433B) WRITE AND TELL ME HOW YOUR FRIENDS FEEL ABOUT AMERICAN FAMILIES NOW.

The SOMETHING has now become a noun-clause whose focal point is the MANNER of that EVENT. The MANNER relationship is secondary--it is the focal point within the embedded EVENT; and what is semantically relevant to the main clause is the REIFICATION relationship resulting from the report of indirect discourse (WRITE AND TELL ME SOMETHING). Such REIFICATION relationships always result either in noun-clauses or infinitival-clauses, not in reduced MANNER-clauses:

(434) TO BE A GREAT ACTOR, YOU MUST KNOW HOW TO FEEL (=HOW YOU SHOULD FEEL), AND KNOW HOW TO DO (=HOW YOU SHOULD DO) THE RIGHT EXPRESSIONS AT THE RIGHT TIME . . .

(435) HE CAN JUDGE WHEN TO PASS IT (=WHEN HE SHOULD PASS IT) AND HOW TO PASS IT (=HOW HE SHOULD PASS IT) SO THAT IT WILL GET TO THE RECEIVER AND NOT TO THE DEFENDER WHO IS COVERING HIM . . .

In contrast to HOW-clauses that are noun-clauses, and not MANNER-clauses, there are some MANNER-clauses that are COMPARISON-clauses as well. For example, in this sixth grader's sentence:

(436) I WISH THAT I COULD PITCH AS GOOD AS HE [CAN]

the second AS-phrase (AS HE CAN) results from a MANNER relationship that describes HOW the ACTION (MY PITCHING) is to be like some other ACTION (HIS PITCHING), while the first AS-phrase (AS GOOD) results from an equality COMPARISON relationship that describes exactly how proportionally GOOD these two ACTIONS are (AS GOOD AS, equivalent to EQUAL TO). Thus, the entire set of AS-phrases, AS GOOD AS HE CAN, results not from one relationship but two: MANNER and COMPARISON. This phenomenon is not unusual in student writing, as these sentences illustrate:

(437) WE ENJOY THE OUTDOOR LIFE AS WELL AS WE DO STAYING HOME (=EQUAL TO THE WAY WE ENJOY STAYING HOME).

(438) I WOULD LIKE TO SKI AS WELL AS HIM (=EQUAL TO THE WAY HE DOES).

(439) . . . YOU CAN GET ALONG VERY WELL HERE, JUST AS WELL AS YOU CAN THERE (=EQUAL TO THE WAY YOU CAN GET ALONG THERE).

The combined MANNER and COMPARISON relationships that result in AS WELL AS-clauses should not be confused with the AS WELL AS-clauses that signal the conjunctive relationship ENUMERATION OF REFERENTS, in which AS WELL AS is a single lexical item, the connective whose equivalent is IN ADDITION TO, as in these student sentences:

(440) WE GO PLACES WITH OUR FAMILY AS WELL AS (=IN ADDITION TO) STAYING HOME WITH OUR FAMILY.

(441) I MEAN, REALLY, WHO WANTS TO BE A BABY ALL HIS LIFE, PHYSICALLY AS WELL AS (=IN ADDITION TO) MENTALLY?

Those combined COMPARISON and MANNER relationships sometimes result in a sentence like this tenth grader's:

(442) IF THE PRESIDENT DOESN'T DO HIS JOB, NOBODY IN OFFICE GETS HALF AS MUCH DONE

in which the COMPARISON relationship HALF AS MUCH DONE implies the MANNER relationship AS HE WOULD GET DONE IF THE PRESIDENT DID HIS JOB, which, though easily recoverable, has been deleted. There are other signals for the combination of MANNER and COMPARISON relationships: THE SAME WAY THAT, in which SAME indicates the equality COMPARISON relationship and THE . . . WAY THAT indicates the MANNER relationship:

(443) THEY SEEMED TO FEEL PRETTY MUCH THE SAME WAY YOU AND YOUR FRIENDS DO . . . .

Another such signal is JUST LIKE or JUST AS, in which the JUST reflects the equality COMPARISON relationship and the LIKE or AS the MANNER relationship:

(444) ON DEFENSE HE WAS JUST AS POWERFUL.

(445) SO YOU SEE, WE DO THINGS TOGETHER JUST AS YOU DO TOO.

On occasion, these combined COMPARISON and MANNER relationships lead students into ambiguities when they represent them syntactically. For example, this sixth grader's sentence contains an AS-phrase:

(446) ?CARL DID AS BEST HE COULD IN THE 1967 WORLD SERIES BUT HIS BEST WAS NOT ENOUGH

in which it is not clear whether there is one relationship or two relationships--inequal proportional COMPARISON (THE BEST THAT HE COULD) or equal proportional COMPARISON plus MANNER (AS WELL AS HE COULD). The hybrid construction, AS BEST HE COULD, contains elements of both sets of these possible relationships in such a mixture that the result is ambiguous. Another example of ambiguity is this sixth grader's sentence:

(447) ?GARY WEARS CLEAN CLOTHES AND HE DOES NOT WEAR LONG HAIR LIKE THE MONKEES OR SOME OTHER ODD GROUPS

in which the LIKE-phrase LIKE THE MONKEES OR SOME OTHER ODD GROUPS may be equivalent to LIKE THE MONKEES OR SOME OTHER ODD GROUPS DO (WEAR) or it may be equivalent to LIKE THE MONKEES' OR SOME OTHER ODD GROUP'S LONG HAIR. If it is the former, then the relationship is MANNER , in which the ACTION of WEARING LONG HAIR is likened to the ACTION of two other groups' WEARING LONG HAIR. If the latter, then the relationship is COMPARISON, in which the OBJECT, LONG HAIR, is equal to the LONG HAIR of the MONKEES or SOME OTHER ODD GROUPS. Although there is some additional internal evidence--namely, the WEARING of CLEAN CLOTHES--to suggest that the relationship is MANNER, rather than COMPARISON, the ambiguity probably cannot be resolved without recourse to the student who wrote sentence (447).

Comparison relationships of quality.--COMPARISON relationships are made on the basis of the equality or inequality of likeness or unlikeness existing between OBJECTS, ACTIONS or EVENTS. Inequality relationships involving the proportion of likeness existing between REFERENTS are of two types: (1) those between two REFERENTS, and (2) those among three or more REFERENTS. Inequalities between two REFERENTS are syntactically signalled by MORE (LESS) . . . THAN, while inequalities among three or more are syntactically signalled by THE MOST (LEAST) . . . THAT. Sometimes, in fact, the MORE (LESS) is expressed in the "comparative" adjective or adverb, in which the suffix -ER is affixed to the adjective or adverb. Similarly, the MOST (LEAST) is expressed in the "superlative" adjective or adverb, in which the suffix -EST is affixed to the adjective or adverb.

The syntactic representation of inequality COMPARISON relationships between two OBJECTS can be illustrated by these student sentences:

(448) WHEN HE WAS ABOUT SIXTEEN HE WAS TALLER THAN A NORMAL PERSON.

(449) WE HOPE THAT YOU'LL . . . MAKE ROYCE AVENUE EVEN MORE FUN THAT IT IS NOW.

In these sentences, as in the sentences illustrating MANNER relationships, the QUALITY-clause is reduced--a unique feature of all QUALITY relationships. The sentences above are reduced from these:

(448A) WHEN HE WAS ABOUT SIXTEEN HE WAS TALLER THAN A NORMAL PERSON WOULD BE TALL.

(449A) WE HOPE THAT YOU'LL . . . MAKE ROYCE AVENUE EVEN MORE FUN THAN IT IS FUN NOW.

Whereas these reductions affected the original VP of the COMPARISON-clause, in the following student sentences the reductions affected both the "formal subject"-NP and part of the VP of the COMPARISON-clauses:

(450) HE IS ABOUT MY AGE, AND A BIT TALLER THAN ME (=THAN I AM TALL).*

(451) . . . I'LL BET YOU TEN TO ONE YOU WILL LIKE IT BETTER THAN YOUR OLD NEIGHBORHOOD (=THAN YOU LIKED YOUR OLD NEIGHBORHOOD).

(452) ACCORDING TO THE PARAGRAPH, HE COULD CARE LESS ABOUT THE SCHOOL (=LESS ABOUT THE SCHOOL THAN ABOUT ANYTHING ELSE).

The syntactic representation of inequality COMPARISON relationships between two ACTIONS or EVENTS takes much the same form as do inequality relationships between two OBJECTS, as these student sentences illustrate:

(453) I SAY THIS BECAUSE I FEEL THAT A TEENAGER MATURES MORE AT THIS AGE THAN [AT] ANY OTHER TIME (=MORE THAN HE MATURES AT ANY OTHER TIME).

(454) IT IS A KNOWN FACT THAT GIRLS MATURE FASTER THAN BOYS (=FASTER THAN BOYS MATURE).

(455) FOR INSTANCE, TAKE BOB--HE JUST DID WHAT HE WANTED TO DO, NO MORE, NO LESS (=NO MORE WORK THAN HE WANTED TO DO AND NO LESS WORK THAN HE WANTED TO DO).

(456) IF THEY DIDN'T CONTINUE TO URGE HIM, HE MIGHT FEEL THEY WERE TRYING TO REPLACE HIM AND HE WOULD WORK ALL THE LESS (=EVEN LESS THAN HE HAD WORKED BEFORE THEY CONTINUED TO URGE HIM TO WORK).

Note that sentences (453) and (454) contain reduced COMPARISON; in sentences (455) and (456), however, the COMPARISON-clauses have been deleted entirely. Despite the deletion of the COMPARISON-clauses, they are easily recoverable because the comparative adverbs (MORE, LESS) make clear both the ACTION being compared and the ACTION serving as the standard for the COMPARISON.

Sentences in which only the comparative word remains in the surface sentence to signal an inequality COMPARISON relationship are more common than ones containing reduced COMPARISON-clauses in our sample of student writing. Perhaps this results from the fact that the COMPARISON-clause, though only implicit, is so easily recoverable from the content of the sentence that its deletion is acceptable. For example, the only signals for the inequality COMPARISON relationships in this eighth grader's sentence are the comparatives MORE and LONGER:

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*When the subject NP is a pronoun like I, HE, SHE, THEY, or WE, the reduction process often results in a change of pronoun-form to ME, HIM, HER, THEM, or US, respectively: a shift considered objectionable in schoolbook grammars but not in this analysis.

(457) YOU CAN PLAY OUTSIDE MORE IN THE SUMMER BECAUSE THE DAYS ARE LONGER.

The implicit COMPARISON suggested by MORE IN THE SUMMER is this: MORE IN THE SUMMER THAN ANY OTHER TIME OF THE YEAR; and the implicit COMPARISON suggested by LONGER in the EXPLANATORY-clause is this: LONGER THAN THEY ARE ANY OTHER TIME OF THE YEAR. The following student sentences illustrate how the simple presence of some comparative adjective or adverb is sufficient for the recovery of the implicit COMPARISON-clause:

(458) BUT IT WILL BE EASIER FOR YOU (THAN IT WAS EASY FOR ME) BECAUSE I CAN GET YOU ACQUAINTED WITH ALL THE PEOPLE THAT I KNOW.

(459) SHE IS TEACHING US LANGUAGE A FASTER WAY (THAN WE EVER STUDIED LANGUAGE BEFORE); IT'S A LOT MORE FUN (THAN LANGUAGE STUDY EVER WAS FUN BEFORE).

(460) HE DIDN'T GET PICKED BECAUSE OF THE JOB; IT WAS PROBABLY JUST TO GET HIM TO BE AN EVEN MORE POPULAR PERSON (THAN HE IS POPULAR NOW).

(461) BOB WOULD LEARN TO FORM BETTER HABITS (THAN HE HAS HABITS NOW) AND ROUND OUT HIS CHARACTER.

Sentences in which MORE is the only signal for inequality COMPARISON relationships can be mistaken for sentences in which MORE means simply ADDITIONAL, and is therefore not a COMPARISON-signal at all. For example, the MORE in this seventh grader's sentence means only ADDITIONAL, and does not signal an inequality COMPARISON relationship:

(462) I BEGAN TO GET ACQUAINTED WITH MORE AND MORE PEOPLE.

There are student sentences in which the MORE is ambiguous, since either interpretation seems possible. For example, take this seventh grader's sentence:

(463) ?SO I'M SURE YOU'LL HAVE A LOT OF FUN OUT HERE, AND IF YOU PLAY YOUR CARDS RIGHT YOU SHOULD GET MORE FRIENDS OUT HERE.

It is equivalent either to this one:

(463A) . . . AND IF YOU PLAY YOUR CARDS RIGHT YOU SHOULD GET MORE FRIENDS OUT HERE THAN YOU HAD FRIENDS WHERE YOU ARE LIVING NOW

or this one:

(463B) . . . AND IF YOU PLAY YOUR CARDS RIGHT YOU SHOULD GET ADDITIONAL FRIENDS OUT HERE.

Similarly, this eleventh grader's sentence:

(464) ALSO, AT THIS AGE, ALMOST EVERYONE IS WORKING AND MORE RESPONSIBILITY FALLS ON HIM

can be interpreted either as:

(464A) ALSO, AT THIS AGE ALMOST EVERYONE IS WORKING AND MORE RESPONSIBILITY FALLS ON HIM THAN AT ANY OTHER TIME IN HIS LIFE

or as:

(464B) ALSO, AT THIS AGE, ALMOST EVERYONE IS WORKING AND ADDITIONAL RESPONSIBILITY FALLS ON HIM NOW.

The difficulties encountered in student sentences containing inequality COMPARISON relationships between two REFERENTS can be illustrated best with some examples. First, we found sentences like this sixth grader's:

(465) *AND WHEN I READ HIS LIFE STORY, IT SAID HE WAS EVEN BETTER AN ATHLETE AND STRONG MAN THAN ANGUS MCASKILL, WHO WAS THE STRONGEST MAN ON EARTH.

Had the placement of the article AN been before EVEN, the sentence would have become less objectionable:

(465A) AND WHEN I READ HIS LIFE STORY, IT SAID HE WAS AN EVEN BETTER ATHLETE AND STRONG MAN THAN ANGUS MCASKILL, WHO WAS THE STRONGEST MAN ON EARTH.

Next, we found sentences like this tenth grader's:

(466) *SINCE BOB IS A SENIOR I THINK HAVING ANOTHER STUDENT HELP HIM IS BETTER THAN TO KICK HIM OUT

in which the reduction of the COMPARISON-clause to an infinitival-clause is less appropriate than reducing it to a gerundive-clause:

(466A) SINCE BOB IS A SENIOR I THINK HAVING ANOTHER STUDENT HELP HIM IS BETTER THAN KICKING HIM OUT.

Infinitival-clauses seem to result from reductions of clauses that contain a modal auxiliary. The complete COMPARISON-clause before reduction seems, in sentence (466), to have been: BETTER THAN THE IDEA THAT WE KICK HIM OUT IS (A GOOD IDEA). Then too, we found sentences like this eighth grader's:

(467) *IN ONE WAY THEY ARE RIGHT: WE DO WATCH TELEVISION TOO MUCH THAN WE SHOULD.

The conflict here is between the DEGREE OF INTENSITY-signal TOO MUCH and the COMPARISON-signal THAN WE SHOULD. If the relationship is inequality COMPARISON, then the sentence that would make that relationship syntactically clear is this one:

(467A) IN ONE WAY THEY ARE RIGHT: WE DO WATCH TELEVISION MUCH MORE THAN WE SHOULD.

If the relationship is DEGREE OF INTENSITY, then the sentence to make that syntactically clear would be this one:

(467B) IN ONE WAY THEY ARE RIGHT: WE DO WATCH TELEVISION TOO MUCH (TO APPRECIATE WHAT ELSE WE ARE MISSING).

We found, also, sentences in which there was a semantic conflict between the syntactic representation of an inequality COMPARISON relationship and the rest of the sentence, as this sixth grader's sentence illustrates:

(468) *I AM NUTS ABOUT MYTHOLOGY, AND, NEXT TO APOLLO, HERCULES IS MY FAVORITE HERO.

In the main clause after the coordinator AND, the COMPARISON relationship represented as NEXT TO APOLLO seems appropriate, for it seems to be equivalent to this clause:

(468A) . . . COMPARED TO OTHER MYTHOLOGICAL HEROES, APOLLO RANKS NEXT AFTER HERCULES AS MY FAVORITE HERO.

However, when this main clause is coordinated with the first one in a CATEGORY EXPANSION relationship, the conflict appears, for the CATEGORY apparently being EXPANDED is MYTHOLOGY, not MYTHOLOGICAL HEROES. While the CATEGORY of MYTHOLOGY includes

MYTHOLOGICAL HEROES, it certainly includes much more and is therefore too general to be EXPANDED into the coordinated main clauses of the student's sentence. If his CATEGORY is, however, MYTHOLOGICAL HEROES, then the two statements about this CATEGORY NP seem entirely appropriate as members of a CATEGORY EXPANSION:

(468B) I AM NUTS ABOUT MYTHOLOGICAL HEROES, AND, NEXT TO APOLLO, HERCULES IS MY FAVORITE ONE.

Inequality COMPARISON relationships existing between three or more REFERENTS have as their syntactic signals the "superlatives" THE MOST and THE LEAST followed by a COMPARISON-clause introduced by THAT, as these students' sentences illustrate:

(469) HE WAS THE GREATEST BASEBALL PLAYER THAT EVER LIVED.

(470) CARL, AS FAR AS I'M CONCERNED, IS THE GREATEST PLAYER THAT EVER LIVED.

Just as frequently, these "superlatives" are followed by the COMPARISON-clause with no introductory connective, as these student sentences illustrate:

(471) I THINK HE IS THE BEST PLAYER ANY ONE COULD HAVE.

(472) OUR NEIGHBORHOOD IS ABOUT THE BEST YOU COULD ASK FOR.

Reductions of the COMPARISON-clauses in these "superlative" COMPARISON relationships are more common than complete ones. An unusual kind of reduction is illustrated in this sixth grader's sentence:

(473) HE WON AND BECAME THE YOUNGEST MAN TO BE PRESIDENT

in which the infinitival-clause TO BE PRESIDENT has been reduced from THAT EVER BECAME PRESIDENT UNTIL THAT TIME. A more common type of "superlative" reduction is illustrated by this seventh grader's sentence:

(474) . . . I BECAME ONE OF THE MOST POPULAR KIDS ON THE BLOCK

which seems to be equivalent to this one:

(474A) . . . I BECAME ONE OF THE MOST POPULAR KIDS OF ALL THE KIDS THAT LIVED ON THE BLOCK.

What the COMPARISON-clause in sentences like (474) seems to denote is the existence in some space or time of all OBJECTS like the OBJECT being compared, and what happens to the COMPARISON-clause in reduction is that only the location of the other OBJECTS either in space or time is preserved, since location in space or time presupposes the existence of the OBJECTS. Therefore, we have many sentences in which the "superlative" COMPARISON relationship results in reduced COMPARISON-clauses that denote the range of OBJECTS in space or time with which the OBJECT is being compared, as these student sentences illustrate:

(475) I THINK HE SHOULD BE ELECTED THE MOST VALUABLE PLAYER IN THE NATIONAL FOOTBALL LEAGUE.

(476) I THINK HE IS ABOUT THE GREATEST PASSER IN FOOTBALL HISTORY.

There are, in addition, sentences in which the COMPARISON-clause has been deleted entirely so that the range of OBJECTS with which the one in the sentence is being compared has to be inferred from the content of the sentence itself. For example, this seventh grader's sentence:

(477) THE OTHER STREETS HAVE THEIR OWN CLUBS (OURS IS THE BEST)

contains the superlative BEST whose COMPARISON-clause must be something like this: OF ALL THESE CLUBS THAT EXIST ON THE STREETS OF MY NEIGHBORHOOD. The COMPARISON-clause of this eighth grader's sentence:

(478) I THANK GOD EVERY NIGHT THAT I HAVE TWO OF THE BEST PARENTS

implies the COMPARISON-clause OF ALL THE PARENTS THAT ANYONE COULD HAVE (or THAT I COULD HAVE). Similarly, this eighth grader's sentence:

(479) DINNER IS PROBABLY OUR MOST IMPORTANT MEAL

implies the COMPARISON-clause OF ALL THE MEALS THAT WE EAT AT OUR HOME. Thus, the reduction of superlative COMPARISON relationships to just the superlative can take place so long as the COMPARISON-clause can be recovered from the content of the rest of the sentence.

When a superlative like BEST appears in a COMPARISON relationship in student sentences, a "THING"-cleft often results, instead of the more straightforward representation as in this tenth grader's sentence:

(480) IF BOB EVER DID GET IMPEACHED, IT WOULD BE BEST FOR EVERYONE

which could just as easily have appeared in a "THING"-cleft variation as:

(480A) IF BOB EVER DID GET IMPEACHED, IT WOULD BE THE BEST THING (THAT EVER HAPPENED) FOR EVERYONE . . . .

Therefore, this tenth grader's sentence:

(481) BUT I FEEL THE MOST IMPORTANT THING THAT COULD BE LEARNED FROM THIS IS TO ELECT A RESPONSIBLE PERSON TO DO THE JOB

is a "THING"-cleft variation of this sentence:

(481A) BUT I FEEL THAT TO ELECT A RESPONSIBLE PERSON TO DO THE JOB IS THE MOST IMPORTANT OF ALL THAT COULD BE LEARNED FROM THIS.

In addition to the "THING"-cleft resulting in this tenth grader's sentence:

(482) IN MY OPINION THE BEST ACTION TO TAKE WOULD BE TO GET RID OF BOB

there has been a reduction of the COMPARISON-clause THAT WE SHOULD TAKE to the infinitival-clause TO TAKE. Not only can "THING"-clefts introduce an NP like ACTION to apply the superlative COMPARISON to, but also ACTION can apparently be expanded to LINE OF ACTION, as these tenth graders' sentences illustrate:

(483) I THINK THE BEST LINE OF ACTION TO TAKE WOULD BE _D_ . . . .

(484) I THINK _C_ IS THE BEST LINE OF ACTION TO TAKE, CONSIDERING THE WELFARE OF BOTH BOB AND THE SCHOOL.

Not only can "ACTION" and "LINE OF ACTION" appear in "THING"-clefts with superlatives, but so can "SOLUTION," "MOVE," and "CHOICE," as these tenth graders' sentences illustrate:

(485) I BELIEVE STEP "A" IS THE BEST POSSIBLE SOLUTION TO THIS PROBLEM . . . .

(486) THE BEST CHOICE WOULD HAVE TO BE THE FIRST, TO HAVE THIS GUY REMOVED FROM OFFICE.

(487) I THINK SITTING IT OUT WOULD BE THE MOST STUPID MOVE . . . .

The most common version of "THING"-clefts remains the version that utilizes the ubiquitous NP "THE THING," as in these student sentences:

(488) THE BEST THING, I STILL BELIEVE, IS TO HAVE HIM REMOVED FROM OFFICE.

(489) I THINK BEING TOGETHER AS A FAMILY IS THE MOST IMPORTANT THING IN THE WORLD.

(490) . . . I KNOW MY FRIENDS THINK IT IS THE MOST IMPORTANT THING IN THEIR LIVES TODAY.

The inequality COMPARISON relationship that exists among three or more REFERENTS, resulting in superlatives with explicit or implicit COMPARISON-clauses, is more likely to appear in cleft-versions than the inequality COMPARISON relationship existing between only two REFERENTS. So far, we have been examining inequality COMPARISONS that differ from each other only in the degree to which they apply to like REFERENTS. An inequality relationship that stresses the unlikeness between REFERENTS is the one resulting in DIFFERENT FROM or DIFFERENTLY THAN in surface sentences, as these eighth graders' sentences illustrate:

(491) LIFE IN OUR COUNTRY IS A LITTLE DIFFERENT FROM YOURS (=FROM LIFE IN YOUR COUNTRY).

(492) IT IS TRUE THAT LIFE IN AMERICA IS DIFFERENT FROM LIFE IN EUROPE.

DIFFERENT FROM seems to result when OBJECTS are compared and found to be dissimilar; DIFFERENTLY THAN seems to result when ACTION/EVENTS are compared and discovered to be unlike, as this sentence illustrates:

(493) RICHARD BURTON PLAYED THE ROLE OF "HAMLET" DIFFERENTLY THAN SIR LAWRENCE OLIVIER (=DIFFERENTLY THAN OLIVIER DID, DIFFERENTLY THAN OLIVIER PLAYED THE ROLE OF "HAMLET").

One difficulty students seemed to have with inequality relationships of dissimilarity can be illustrated with this eighth grader's sentence:

(494) *HERE IN AMERICA IS DIFFERENT.

From the content of previous sentences in the essay, it was obvious that the implicit COMPARISON-clause is FROM LIFE IN EUROPE.

Either the student has omitted LIFE from something like LIFE HERE IN AMERICA IS DIFFERENT, in which case we would consider it only a transcription error, or he has assumed that HERE is sufficient pronominal reference to LIFE HERE, in which case we would consider that the reduction process on the COMPARISON-clause was in error for the entire clause should not have been deleted.

Like the syntactic representation of inequality COMPARISON relationships, those of equality COMPARISONS also result in reduced COMPARISON-clauses, like the ones in these students' sentences:

(495) I WOULD LIKE TO BE LIKE RICK MOUNT (=LIKE RICK MOUNT IS), A BASKETBALL PLAYER AT INDIANA.

(496) BEFORE I MOVED HERE I WAS LIKE YOU (=LIKE YOU ARE).

(497) I FEEL BOB IS MUCH LIKE PRESIDENT R. SLEEPER (=LIKE PRESIDENT R. SLEEPER IS).

These equality COMPARISONS stress the almost identical likeness, or the very high degree of similarity, between two OBJECTS (e.g., in sentence (495) above, between the student and someone whom he admires and whose place he wishes to take). The connective that signals this kind of equality COMPARISON is LIKE, not to be confused with the LIKE that introduces some CATEGORY EXPANSIONS, as in this sixth grader's sentence:

(498) ALL THESE GREAT COMEDIANS, LIKE (=FOR EXAMPLE) ALAN KING AND BILL COSBY, . . . DON'T WRITE THEIR OWN MATERIAL

in which the CATEGORY is explicitly stated (ALL THESE GREAT COMEDIANS) and the set of specific members of that CATEGORY that the student names as examples are introduced by the LIKE that is equivalent to FOR EXAMPLE.

The reduced COMPARISON-clauses of this type of equality relationship can always be interpreted as LIKE NP IS (ARE, WAS, WERE, . . . ), and can thus be distinguished from LIKE NP MANNER-clause reductions that are equivalent to LIKE NP DID (DOES, HAS DONE, . . . ). The reduced equality COMPARISON-clause can also appear in cleft-sentences of the "THERE"-type and the "THING"-type. In the "THERE"-cleft, the COMPARISON-clause is still intact, as this eighth grader's sentence illustrates:

(499) AND THEN THERE ARE SOME FAMILIES WHO ARE LIKE YOU: THEY ARE HOME ALL DAY

where LIKE YOU is equivalent to LIKE YOU ARE. In the "THING"-cleft, however, the clefting process splits the LIKE from its NP, so that the COMPARISON relationship is easy to overlook. For example, this sixth grader's sentence:

(500) THE MAN I WOULD LIKE TO BE LIKE IS JEAN-CLAUDE KILLY

is the "THING"-cleft version of:

(500A) I WOULD LIKE TO BE LIKE JEAN-CLAUDE KILLY.

In the cleft-sentence, LIKE is on one side of the IS (introduced by the clefting-process) and its NP (JEAN-CLAUDE KILLY) is on the other. Similarly, the cleft-sentences of these sixth graders contain the split COMPARISON-clause of equality:

(501) JERRY LUCAS IS A MAN WHO I WOULD WISH TO BE LIKE (=LIKE JERRY LUCAS IS). . . .

(502) STEVE REEVES IS THE PERSON I WOULD LIKE TO BE LIKE (=LIKE STEVE REEVES IS).

And this sixth grader's sentence illustrates one of the problems students have with clefting-processes: the redundant introduction of a pronoun in the THAT-clause preceding the IS of the cleft:

(503) *THE MAN I ADMIRE AND WOULD LIKE TO BE LIKE HIM IS JOHN F. KENNEDY (=LIKE JOHN F. KENNEDY IS).

The reductions of equality COMPARISON-clauses sometimes result in the structure LIKE NP where the NP is a possessive pronoun like YOURS, MINE, THEIRS, OURS, . . . equivalent to an NP made up of a possessive determiner and a repetition of the NP being compared, as these student sentences illustrate:

(504) WE HAVE FAMILY LIFE VERY MUCH LIKE YOURS (=VERY MUCH LIKE YOUR FAMILY LIFE IS).

(505) BUT I THINK I'M PRETTY LUCKY TO GET A FAMILY LIKE MINE (=LIKE MY FAMILY IS).

(506) . . . I'D LIKE TO HAVE A GOOD PERSONALITY LIKE HIS (=LIKE HIS PERSONALITY IS).

A sentence like (506) sometimes results in a "POSSESSION"-cleft version, like this one:

(506A) . . . I'D LIKE TO HAVE A GOOD PERSONALITY LIKE

HE HAS (=LIKE HE HAS A PERSONALITY =LIKE HIS PERSONALITY IS).

When equality COMPARISON relationships are involved, the OBJECTS being compared must be the same; thus, this eighth grader's sentence contains a faultily reduced COMPARISON-clause:

(507) *LIKE EUROPE, AMERICAN FAMILY LIFE IS VERY IMPORTANT

which is interpreted as LIKE EUROPE IS, when in fact the OBJECT being compared is FAMILY LIFE. The following sentence would make the equality COMPARISON relationship syntactically clear:

(507A) LIKE EUROPEAN FAMILY LIFE, AMERICAN FAMILY LIFE IS VERY IMPORTANT.

Similarly, the REIFIED OBJECT in this eighth grader's sentence is inappropriately compared with a physical OBJECT:

(508) *BEING AN AMERICAN IS ALMOST LIKE YOU EUROPEANS (=LIKE BEING AN EUROPEAN).

Another frequent equality COMPARISON connective is AS, more likely to be the introductory word of the COMPARISON-clause when its VP is an adjectival verb identical to the one in the main clause and therefore deleted in the reduction process, as these eighth graders' sentences illustrate:

(509) . . . BUT IN MOST CASES OUR FAMILY LIFE IS VERY IMPORTANT TO US AS IT IS (=LIKE FAMILY LIFE IS VERY IMPORTANT) TO YOU IN EUROPE.

(510) JUST AS IN YOUR COUNTRY (=JUST LIKE BEING TOGETHER AS A FAMILY IS IMPORTANT IN YOUR COUNTRY), BEING TOGETHER AS A FAMILY IS IMPORTANT TO US ALSO.

(511) HERE IN AMERICA AS IN EUROPE (=LIKE BEING TOGETHER IS IMPORTANT IN EUROPE), BEING TOGETHER IS IMPORTANT.

AS seems to alternate with LIKE as the connective to introduce negated equality COMPARISONS, as the following eighth graders' sentences illustrate:

(512) LIFE IN AMERICA IS NOT ALWAYS AS IT SEEMS ABROAD.

(513) MY FAMILY LIFE IS NOT TOO MUCH LIKE YOUR FRIENDS HAVE SAID.

(514) AMERICAN FAMILIES AREN'T REALLY LIKE YOUR FRIENDS CLAIM.

Still another familiar signal for equality COMPARISONS is THE SAME AS, followed by reduced COMPARISON-clauses, as these student sentences illustrate:

(515) I WOULD LIKE TO BE THE SAME AS HE BECAUSE JIM THORP WAS ALWAYS FULL OF SURPRISES.

(516) FAMILY LIFE HERE IS ALMOST THE SAME AS IT IS THERE.

(517) WE HAVE SCHOOL THE SAME AS YOU, HAVE CHORES THE SAME AS YOU, AND PARENTS THE SAME AS YOU.

Notice that if the last underlined phrase in (517) had not appeared with two others like it, it could have been interpreted as WE HAVE PARENTS LIKE YOUR PARENTS ARE. If this were the equality relationship intended, the syntactic representation should probably have been WE HAVE PARENTS LIKE YOURS. This next sentence, by an eighth grader, illustrates one difficulty with THE SAME AS COMPARISON-clauses:

(518) *LIFE IN OUR FAMILY IS PROBABLY THE SAME OR ALMOST THE SAME AS YOU.

The NP following AS should be the possessive pronoun YOURS, rather than the simple pronoun YOU.

Sometimes SAME is a lexical item equivalent to IDENTICAL:

(519) OUR FAMILY TRIES TO EAT AT THE SAME TIME.

Here it means AT THE IDENTICAL TIME EVERYDAY: SIX O'CLOCK. In this eleventh grader's sentence, however, SAME does signal an equality COMPARISON relationship:

(520) EVERYBODY DOESN'T MATURE AT THE SAME AGE.

Here COMPARISON-clause is implicit but it is easily recoverable from the context of the sentence:

(520A) EVERYBODY DOESN'T MATURE AT AN AGE LIKE THE AGE AT WHICH EVERYONE ELSE MATURES.

The COMPARISON-clauses are not always implicit in equality relationships like these, as this eighth grader's sentence illustrates:

(521) WE DO EAT AT THE SAME TIME AS YOU DO.

Another familiar connective for equality COMPARISONS is AS . . . AS, followed by a reduced COMPARISON-clause, like the one in this sixth grader's sentence in which PHYSICAL OBJECTS are being compared:

(522) . . . HOW WOULD YOU LIKE TO GET AS MUCH MONEY AS HE GETS, $100,000 A YEAR!!!

PHYSICAL CHARACTERISTICS are being compared in these student sentences:

(523) HE WEIGHS ABOUT THREE HUNDRED POUNDS AND IS ABOUT AS BIG AS AN OX.

(524) . . . HE'S SORT OF SHORT, ABOUT AS TALL AS ME.

(525) I WONDER IF EUROPE IS AS NICE A PLACE AS AMERICA IS (=A NICE PLACE LIKE AMERICA IS A NICE PLACE).

FEELINGS are being compared in this tenth grader's sentence:

(526) . . . GETTING A HELPER . . . IS NOT AS EMBARRASSING AS BEING REMOVED FROM OFFICE . . .

while JUDGMENTS are being compared in these student sentences:

(527) I THINK THAT FAMILY LIFE IS JUST AS IMPORTANT HERE IN AMERICA AS ANYWHERE ELSE IN THE WORLD.

(528) WE ARE AS MUCH FAMILY PEOPLE AS YOU ARE (=FAMILY PEOPLE MUCH LIKE YOU IN EUROPE ARE FAMILY PEOPLE).

AS . . . AS connectives do not always signal equality COMPARISON relationships, for we have found that certain TIME relationships, especially those dealing with the FREQUENCY with which EVENTS occur, also result in AS . . . AS connectives, as these student sentences illustrate:

(529) . . . HE NEVER KEEPS HIS PROMISES TO TAKE CARE OF EVERYTHING AS SOON AS POSSIBLE.

(530) BUT WE DO GET TOGETHER AS MUCH AS WE CAN.

(531) . . . WE DON'T EAT DINNER TOGETHER QUITE AS MUCH ON WEEKDAYS . . . .

In this last sentence, the FREQUENCY-clause is implicit but easily recoverable from the context of the rest of the sentence:

(532) WE ALMOST ALWAYS EAT SUNDAY DINNER TOGETHER; WE DON'T EAT TOGETHER QUITE AS MUCH ON WEEKDAYS . . . .

LIKE does not always signal equality COMPARISON relationships, for there are sentences of supposition that begin with IT SEEMS LIKE:

(533) IT SEEMS LIKE BOB GOT ELECTED JUST BECAUSE HE WAS POPULAR AND HAD A LOT OF FRIENDS.

The phrase IT SEEMS is equivalent to IN MY OPINION, I THINK, I BELIEVE, or IT SEEMS TO ME, which are usually followed by REIFICATION-clauses that are introduced by THAT, LIKE, AS IF or AS THOUGH:

(534) IT SEEMS AS THOUGH ALL THE FIELDS AND MEADOWS AROUND HERE ARE BECOMING MORE AND MORE BEAUTIFUL NOW.

(535) JUST THINK OF THE FUN WE ARE GOING TO HAVE: IT WILL SEEM LIKE OLD TIMES ARE HERE AGAIN.

In sentences like these, we consider the clauses beginning with LIKE, AS THOUGH, AS IF, or THAT as noun-clauses resulting from REIFICATION relationships involving the VP IT SEEMS (=IN MY OPINION, I THINK, I BELIEVE, IT SEEMS TO ME).

In sentences like this one:

(S) JOHN SEEMS AS IF HE WERE DEAD

the VP SEEMS means APPEARS and the semantic relationships involved are two: MANNER and CONTINGENCY. Sentence (S) is semantically equivalent to this one:

(T) JOHN APPEARS THE WAY HE WOULD APPEAR IF HE WERE DEAD

in which the MANNER relationship is apparent in THE WAY HE WOULD and the CONTINGENT EVENT-CONSEQUENCE relationship is apparent in IF HE WERE DEAD. In sentence (S), therefore, AS signals the MANNER relationship, while IF signals the CONTINGENCY relationship.

Location of actions/events relationships.--The semantic relationship of LOCATION OF ACTIONS/EVENTS denotes the physical space in which ACTIONS and EVENTS occur. The simplest syntactical representation of this relationship is a locational prepositional phrase, as these seventh graders' sentences illustrate:

(536) WE HAVE BEEN PLAYING A LOT OF FOOTBALL ON THE FIELD IN BACK OF TOM'S HOUSE.

(537) THEY ARE BUILDING A HOSPITAL ON SOUTH HIGH STREET . . . .

We have not considered such LOCATIVE prepositional phrases among our count of the representations of LOCATION OF ACTIONS/EVENTS relationships, for they contain no verbal element to indicate that they are reduced LOCATIVE-clauses. LOCATIVE-clauses, reduced or complete, are infrequent in the writing of our project students, although this seventh grader's sentence illustrates one:

(538) I BET YOU COULDN'T GO TO THOSE PLACES WHERE YOU LIVE.

One explanation for the rarity of LOCATIVE-clauses might be the one advanced by Kruisinga:

> . . . clauses of place are rare, attributive clauses with a leading noun (THE PLACE WHERE) being more usual. (9, p. 407)

In sentence (538), the only clue that the WHERE-clause is a LOCATIVE-clause, and not an attributive clause meaning THOSE PLACES YOU LIVE, is that the preceding sentences list Columbus place-names and the YOU is identified as someone living in another city. Therefore, sentence (538) is equivalent in meaning to this one:

(538A) I BET THAT YOU COULDN'T GO TO THOSE PLACES IN THE CITY YOU LIVE IN, BECAUSE YOU DON'T LIVE IN COLUMBUS.

Furthermore, the WHERE-clause is movable in sentence (538), so that it is equivalent to this one:

(538B) I BET THAT, WHERE YOU LIVE, YOU COULDN'T GO TO THOSE PLACES.

Without the student's preceding sentences, the WHERE-clause could have been interpreted as a restrictive relative resulting from an OBJECT RESTRICTION relationship in which the OBJECT THOSE PLACES is limited to just THOSE PLACES IN WHICH YOU LIVE. The movability of the WHERE-clause is probably our only test of whether WHERE-clauses represent the restrictive semantic relationship of LOCATION OF ACTIONS/EVENTS, the restrictive semantic relationship of OBJECT RESTRICTION, or the conjunctive semantic relationship of OBJECT DESCRIPTION/EXPLICATION (when the OBJECT is a PLACE). For example, the WHERE-clause in this eighth grader's sentence:

(539) . . . EVERYWHERE MY FATHER AND MOTHER GOES THE WHOLE FAMILY GOES

results from LOCATION OF ACTIONS/EVENTS relationship, and is equivalent to this one:

(539A) THE WHOLE FAMILY GOES EVERYWHERE MY FATHER AND MOTHER GOES

in which the WHERE-clause appears at the end of the sentence. In this seventh grader's sentence, however, the WHERE-clause is not movable:

(540) THE SCHOOL WHERE YOU AND I GO HAS A REAL NICE PLAYGROUND.

It is not equivalent to either of these:

(540A) WHERE YOU AND I GO THE SCHOOL HAS A REAL NICE PLAYGROUND . . .

(540B) THE SCHOOL HAS A REAL NICE PLAYGROUND WHERE YOU AND I GO.

Thus, sentence (540) results from an OBJECT RESTRICTION relationship in which the PLACE-OBJECT THE SCHOOL has been limited to just the one TO WHICH YOU AND I GO.

Not only can WHERE-clauses be relative clauses and LOCATIVE-clauses, they can also be noun-clauses, resulting from REIFICATION relationships involving cognitive verbs like KNOW:

(541) STUDENTS WANT TO KNOW WHERE ALL THE MONEY IS GOING . . . .

(542) . . . THE NEW PEOPLE WON'T KNOW WHERE TO START.

In addition, "THERE"-clefts often result in WHERE-clauses when the OBJECT pointed out by the "THERE IS A" portion of the cleft-sentence is a PLACE-OBJECT. For example, this seventh grader's sentence:

(543) . . . THERE'S A FIELD BEHIND OUR HOUSE WHERE WE PLAY BASEBALL

is a clefted version of:

(543A) WE PLAY BASEBALL IN A FIELD BEHIND OUR HOUSE.

In the cleft-version, the OBJECT pointed out by THERE'S A is the PLACE-OBJECT in the LOCATIVE prepositional phrase of sentence (543A), and as if to emphasize the LOCATIVENESS of FIELD BEHIND OUR HOUSE the second half of the cleft-sentence WE PLAY BASEBALL is introduced by the LOCATIVE pronoun WHERE. Thus the WHERE-clause is a result of the clefting operation itself and not a LOCATION OF ACTIONS/EVENTS relationship, for the same reason that the prepositional phrases in sentences (536) and (537) were not: there is no verbal element in the original prepositional LOCATIVE phrase.

Some THERE-clefts take the syntactic form that appears in this seventh grader's sentence:

(544) THE KAHIKI IS REAL COOL; THEY HAVE THIS PLACE WHERE BIRDS AND FISH ARE

which is equivalent to:

(544A) THE KAHIKI IS REAL COOL; THERE IS THIS PLACE THERE WHERE BIRDS AND FISH ARE.

In either cleft-version, the WHERE-clause is a result of the clefting operation, and does not result from a LOCATION OF ACTIONS/EVENTS relationship.

Finally, there are some POSSESSION-cleft sentences in which a WHERE-clause appears; for example, this seventh grader's sentence:

(545) THE HIGH SCHOOL HAS A PARKING LOT WHERE WE PRACTICE OUR TENNIS

is equivalent to either of these:

(545A) WE PRACTICE OUR TENNIS ON THE HIGH SCHOOL'S PARKING LOT.

(545B) WE PRACTICE OUR TENNIS ON THE PARKING LOT OF THE HIGH SCHOOL.

Time of actions/events relationships.--ACTIONS and EVENTS occur in time, as well as in space; but unlike LOCATION relationships, TIME relationships are extremely frequent in the sentences written by the project students. The semantic restriction of ACTIONS and EVENTS to some point on a time continuum is syntactically expressed in prepositional phrases and in complete and reduced clauses. As with other restrictive relationships, the prepositional phrases of time-orientation will not be counted in the data analysis below, since there is no verbal element to indicate that the prepositional TIME-phrases are the result of TIME-clause reductions:

(546) WE ALWAYS HAVE A PEP RALLY BEFORE ALL OF THE BIG GAMES.

(547) AFTER DINNER MY BROTHER AND I PLAY A GAME CALLED PING-PONG.

There are several types of TIME relationships, each of which is signalled by its own set of syntactic connectives. For example, sentence (546) exhibits the restriction of the EVENT (WE ALWAYS HAVE A PEP RALLY) to some point in time prior to another EVENT (ALL OF THE BIG GAMES). The syntactic connective signalling this anterior-TIME restriction is BEFORE, as the following student sentences will illustrate:

(548) . . . THEY STILL HAVE ANOTHER SEVEN MONTHS BEFORE SCHOOL LETS OUT AGAIN . . . .

(549) . . . BEFORE SCHOOL STARTS HE IS GOING TO HAVE TO GET THEM CUT.

Sentence (547) above exhibits the restriction of the EVENT (MY BROTHER AND I PLAY A GAME CALLED PING-PONG) to some point in time later than another EVENT (DINNER). The syntactic connective signalling this posterior-TIME restriction is AFTER:

(550) SOMETIMES WE WILL SIT AND TALK LONG AFTER DESSERT HAS BEEN FINISHED AND THE DISHES CLEARED FROM THE TABLE.

(551) . . . AFTER WE'RE ALL THROUGH WE DO OUR JOBS TOGETHER.

In addition to posterior and anterior TIME restrictions, there is also the restriction of one EVENT to some point in time simultaneous with another EVENT, as this seventh grader's sentence illustrates:

(552) WHILE WE ARE EATING BREAKFAST MY MOTHER MAKES OUR LUNCHES . . . .

The EVENT MY MOTHER MAKES OUR LUNCHES is restricted in its occurrence to a simultaneous point in time with another EVENT: WE ARE EATING BREAKFAST. In sentence (552), the TIME connective signalling the simultaneity of the time-restriction is WHILE, although AS can also be used to signal this type of TIME relationship:

(552A) AS WE ARE EATING BREAKFAST MY MOTHER MAKES OUR LUNCHES.

WHILE is the more common of these connectives, and it is sometimes ambiguous:

(553) I DON'T AGREE WITH [PLAN] #3 BECAUSE HE'LL GET THE CREDIT, OFFICE, AND POPULARITY WHILE HE'S GOT SOMEONE TO DO HIS WORK FOR HIM.

In this sentence, it is not clear whether WHILE is a TIME connective, for it is also the signal for CONTRAST relationships, as in this sentence:

(554) PAUL SMITH IS PRESIDENT OF THE STUDENT COUNCIL, WHILE HIS BROTHER TOM IS CO-CAPTAIN OF THE FOOTBALL TEAM.

The WHILE in sentence (553) is ambiguous because it derives from either a CONTRAST relationship or a simultaneous-TIME relationship. If the relationship is CONTRAST, then the meaning of sentence (553) is that HE WILL REAP THE BENEFITS OF HIS POSITION IN CONTRAST TO SOMEONE ELSE WHO WILL DO ALL THE WORK AND GET NONE OF THESE BENEFITS. If the relationship is simultaneous-TIME, then the meaning of sentence (553) is that HE WILL REAP THE BENEFITS OF HIS POSITION WHEN AT THE SAME TIME SOMEONE ELSE IS DOING ALL HIS WORK FOR HIM.

Another TIME relationship is signalled by UNTIL, which in one use restricts an EVENT to a specified future time. The meaning of UNTIL seems to be something like UP TO THE TIME THAT, as these student sentences illustrate:

(555) HE ALSO DOESN'T LIKE TO BE A BALL HOG, KEEPING THE BALL UNTIL HE SHOOTS . . . .

(556) MR. LACKNER'S ORCHARD HAD SOME GOOD FRUIT THIS YEAR . . . UNTIL THE GANG RAIDED IT.

In another use, UNTIL involves the non-occurrence of an EVENT prior to a specific beginning point in the future:

(557) FOR INSTANCE, MY LITTLE BROTHER AND I BOTH PLAY FOOTBALL . . . AND DON'T GET HOME UNTIL ABOUT 6:30 . . . .

The EVENT (GETTING HOME) does not occur before some specific time-point in the future (ABOUT 6:30); the syntactic connective, UNTIL, seems to mean BEFORE THIS POINT IN TIME.

There are some difficulties students have with the UNTIL construction. One of these is illustrated with this sentence:

(558) *IF HE WOULD JUST SIT IT OUT TILL THE REST OF THE YEAR, HE WOULD HAVE A NAME . . . .

TILL (or UNTIL) means UP TO THIS POINT IN TIME in sentence (558), since the EVENT is being thought of as occurring; however, the NP THE REST OF THE YEAR is a duration of time, for which the proper syntactic signal is FOR. If the occurrence of this EVENT (IF HE WOULD JUST SIT IT OUT) is to be restricted to a point in time, then the resulting sentence should have been either of the following sentences:

(558A) IF HE WOULD JUST SIT IT OUT UNTIL THE END OF THE YEAR, HE WOULD HAVE A NAME . . . .

(558B) IF HE WOULD JUST SIT IT OUT UNTIL THE REST OF THE YEAR IS UP, HE WOULD HAVE A NAME . . . .

Another difficulty can be illustrated with this seventh grader's sentence:

(559) ?THEY CAN'T WAIT TILL THE DAY YOU ARRIVE.

The interpretational difficulty with this sentence derives from the existence of two verb-complexes expressed as "CAN'T WAIT": (1) the literal interpretation of the modal CAN'T, which means something like UNABLE TO DO SOMETHING; and (2) the idiomatic interpretation of the entire verb-complex, which suggests that SOMEONE IS SO EAGER FOR SOMETHING TO OCCUR THAT HE DOES NOT WANT TO WAIT FOR THAT EVENT OR ACTION TO OCCUR. Although CAN'T WAIT in sentence (559) can be interpreted literally or idiomatically, it must be taken idiomatically in sentence (560):

(560) I CAN'T WAIT TILL YOU COME, BECAUSE THEN WE CAN GO TO SO MANY PLACES TOGETHER.

The EXPLANATION-clause rules out the literal interpretation of CAN'T.

When the EVENT of WAITING FOR SOMEONE TO DO SOMETHING is psychological, rather than physical, and when the ACTOR of the WAITING ACTION is identical with the ACTOR of the TIME restriction, the TIME restriction clause is almost invariably reduced to an infinitival-clause. Thus we have a sentence like:

(561) I CAN'T WAIT TO SEE YOUR FAMILY MOVE IN

instead of:

(561A) I CAN'T WAIT UNTIL I SEE YOUR FAMILY MOVE IN.

While it is possible to reduce UNTIL-clauses to infinitival-clauses even when the ACTORS in the main EVENT and the TIME EVENT are not identical, it is more common to find students employing this reduction only when the ACTORS are identical:

(562) . . . HE SAYS HE CAN'T WAIT TO SEE YOU (=UNTIL HE SEES YOU) BECAUSE THE OTHER BOYS HAVE TOLD HIM SO MUCH ABOUT YOU.

(563) I HAVE ALSO TOLD ALL OF MY FRIENDS ABOUT YOU, AND THEY CAN'T WAIT TO MEET YOU (=UNTIL THEY MEET YOU).

Another familiar type of TIME-clause is the one illustrated by this seventh grader's sentence:

(564) . . . WRITE AGAIN THE DAY BEFORE YOU LEAVE, SO THAT I CAN BE READY FOR YOU!

Not only is the TIME-restriction clearly one of prior time, as expressed by the syntactic signal BEFORE, but the exact point in time prior to which the main EVENT (WRITE AGAIN) is to occur is specified: THE DAY BEFORE. Students vary the degree of specificity in the time to which the main EVENT is restricted, as these sentences illustrate:

(565) MICKEY HAS . . . PLAYED IN THE OUTFIELD HIS WHOLE CAREER EXCEPT FOR THE LAST YEAR WHEN THEY PUT HIM AT FIRST BASE.

(566) FIRST TIME WE RAIDED IT, HE CAME OUT WITH HIS OLD SHOTGUN WITH SALT IN IT . . . .

(567) I DON'T REALLY THINK THAT ANYBODY CAN REALLY SET A CERTAIN AGE WHEN A PERSON SHOULD MATURE.

The most common syntactic signal employed by students to introduce TIME-clauses is WHEN; this is probably the most general TIME connective in English, as a check of the dictionary meanings for WHEN reveals. It is a cover term for AT WHICH TIME, when the TIME is as specific as HOW LONG AGO, HOW SOON, or WHILE (DURING WHICH TIME); and when the TIME is as general as IN ANY OR ALL TIMES THAT, IN ANY OR EVERY INSTANCE THAT, or WHENEVER. In addition to its TIME meanings, it can also mean IN THE EVENT THAT

(ON THE CONDITION THAT, IF), CONSIDERING THAT, and ALTHOUGH--thereby placing it in the group of syntactic signals for the semantic relationships of CONTINGENT EVENT-CONSEQUENCE and CONCESSION. Let us examine some illustrative sentences in which WHEN is a TIME-connective before we look at its non-TIME functions.

The following student sentences illustrate the use of WHEN as a TIME-connective whose meaning is AT SOME POINT IN TIME IN THE PAST:

(568) THEN I FOUND WHEN I MOVED HERE THAT ONE DAY CAME RIGHT AFTER THE OTHER . . . .

(569) I THINK THAT HE WAS THE BEST FOOTBALL PLAYER IN THE LEAGUE WHEN HE PLAYED.

(570) WHEN HE WAS ABOUT SIXTEEN, HE WAS TALLER THAN A NORMAL PERSON.

The following illustrate the use of WHEN as a TIME-connective whose meaning is AT SOME POINT IN TIME IN THE FUTURE:

(571) THE DIPLOMA YOU RECEIVE WHEN YOU GRADUATE IS NOT A SIGN OF MATURITY . . . .

(572) WHEN I AM OLDER I WOULD LIKE TO PLAY A SPORT.

(573) . . . HE PROBABLY TOLD MICKEY TO PLAY BASEBALL WHEN HE GREW UP.

The following illustrate the use of WHEN as a TIME-connective whose meaning is DURING WHICH TIME THIS EVENT IS OCCURRING:

(574) YOUR FATHER I MET WHEN HE WAS PICKING OUT YOUR HOUSE.

(575) WHEN WE WERE CAMPING, OUR FATHER HAD TO WORK.

(576) I LIKE THE SCHOOL VACATION IN OUR COUNTRY BECAUSE WE DO NOT HAVE TO GO TO SCHOOL IN THE SUMMER WHEN IT IS SO HOT, BUT THEY DO.

The following sentences illustrate the use of WHEN as a TIME-connective whose meaning is more general than the last three sets of student sentences; instead of focusing on a specific point in past, future or on-going time, WHEN focuses on a general time-period, so that in these sentences it comes to mean IN ANY OR ALL TIMES THAT THIS EVENT OCCURS, IN ANY OR EVERY INSTANCE THAT THIS EVENT OCCURS, or WHENEVER THIS EVENT OCCURS:

(577) . . . I WANT TO BE A GOOD SPORT WHENEVER I PLAY FOOTBALL.

(578) THE NEIGHBORS AND FRIENDS ARE JUST GREAT, ALWAYS GIVING HELP WHEN YOU NEED IT.

(579) WHENEVER HE IS ON THE COURT HE DOESN'T TRY TO ACT LIKE THE BEST PLAYER ON HIS SIDE.

The only examples of the use of WHEN whose meaning is not connected with TIME are illustrated with the following sentences, in which WHEN seems to mean IN THE EVENT THAT THIS SHOULD OCCUR, ON THE CONDITION THAT THIS EVENT SHOULD OCCUR, or IF THIS EVENT SHOULD OCCUR. The relationship involved in these sentences seems to be CONTINGENT EVENT-CONSEQUENCE, rather than TIME relationship:

(580) WE ONLY WATCH TELEVISION WHEN WE HAVE NOTHING ELSE TO DO.

(581) WE ALSO HELP TAKE CARE OF THE BABY WHEN MOM IS BUSY.

(582) HE TRIES TO CHEER YOU UP WHEN THINGS LOOK BAD . . . .

(583) WHEN SOMEONE SAYS SOMETHING ABOUT IT, HE DENIES THEM THE RIGHT TO SPEAK . . . .

In addition to the reduction of UNTIL-clauses to infinitival-clauses, which is undoubtedly a special case of TIME-clause reductions, there are the reductions of TIME-clauses to gerundive-clauses introduced by TIME-connectives. Like the reductions of UNTIL-clauses, the reductions to gerundive-clauses take place only when the ACTOR in the TIME-clause is identical with the ACTOR in the main EVENT-clause, as these student sentences illustrate:

(584) THE HIGH SCHOOL HAS A PARKING LOT WHERE WE PRACTICE OUR TENNIS BEFORE GOING TO THE TENNIS COURTS . . . .

(585) AFTER RECEIVING YOUR LETTER, I GATHERED UP SOME FRIENDS TO TALK ABOUT AMERICAN LIFE.

(586) SOMETIMES WE ARE SEPARATE WHEN EATING MEALS.

The reduction of TIME-clauses to gerundive-clauses appears possible no matter what the tense of the TIME-clause verb, for the gerundive is interpreted according to the tense of the main EVENT-clause.

There are WHEN-clauses that are not essentially TIME-clauses: (1) restrictive clauses whose OBJECT-being-restricted is some TIME-NP; (2) noun-clauses which result from REIFICATION relationships in which TIME is an ingredient. For example, this seventh grader's sentence illustrates the restriction of a TIME-NP:

(587) ONCE IN AWHILE MY FATHER MAY HAVE TO WORK LATE AND WON'T MAKE IT HOME IN TIME FOR DINNER, OR MY BROTHER DOESN'T KEEP TRACK OF TIME, OR WE'RE INVITED TO FRIENDS' HOUSES FOR DINNER--THESE ARE THE ONLY TIMES WHEN WE MAY NOT EAT OUR DINNER AS A WHOLE FAMILY.

The use of WHEN instead of THAT for the introductory word of this OBJECT RESTRICTION-clause occurs with somewhat the same frequency as WHERE does (instead of THAT) in OBJECT RESTRICTION relationships whose OBJECT is some LOCATION-NP. Just as there is the reduction of THE PLACE THAT or THE PLACE WHERE to simply WHERE in these OBJECT RESTRICTION-clauses, there is also the reduction of THE TIME WHEN or THE TIME THAT to simply WHEN, as this seventh grader's sentence illustrates:

(588) THE WHOLE FAMILY IS ALWAYS TOGETHER AT SUPPER; THIS IS USUALLY WHEN WE DISCUSS THE DAY'S HAPPENINGS OR TOMORROW'S PROBLEMS.

After verbs which express COGNITIVE ACTION--like KNOW, REMEMBER, THINK, BELIEVE--there is often the REIFICATION of the original EVENT into a FACT: the result is a noun-clause, or infinitival-clause (if the EVENT is future-oriented). For example, this sixth grader's sentence illustrates the infinitival variant of a noun-clause involving some modality like POSSIBILITY (SHOULD) or ABILITY (CAN):

(589) I WOULD LIKE TO BE ABLE TO PASS LIKE HIM AND KNOW ALL OF THE PLAYS AND WHEN TO USE THEM (=WHEN I CAN USE THEM, or WHEN I SHOULD USE THEM).

WHEN TO USE THEM is no longer an EVENT when it is the object of a COGNITIVE ACTION like KNOWING; it has been REIFIED--made into a FACT to be thought about, speculated upon, known, believed, or disbelieved. In the following sixth grader's sentence, not only has the REIFICATION affected an EVENT whose focal point is TIME, but has also affected an EVENT whose focal point is MANNER:

(590) HE CAN JUDGE WHEN TO PASS IT AND HOW TO PASS IT (=WHEN HE CAN/SHOULD PASS IT AND HOW HE CAN/SHOULD PASS IT) SO IT WILL GET TO THE RECEIVER AND NOT TO THE DEFENSE THAT IS COVERING HIM.

The act of JUDGING is a COGNITIVE ACTION, and therefore the EVENTS being JUDGED are no longer EVENTS but REIFICATIONS--FACTS, BELIEFS, JUDGMENTS, OPINIONS, THOUGHTS, or IDEAS.

Not all REIFICATIONS result in infinitival-clauses; the following seventh grader's sentence illustrates the REIFICATION of an EVENT into a FACT--the result of which is a noun-clause:

(591) REMEMBER HOW FEW THE FIELD TRIPS WERE.

The COGNITIVE ACTION of REMEMBERING usually results in the REIFICATION of a past EVENT into a FACT which can be remembered or forgotten. Noun-clauses not only appear as the objects of COGNITIVE ACTIONS, but they also appear as the subjects of EMOTIONAL RESPONSES, for an EVENT can be REIFIED into something which human beings can respond emotionally to. For example, this sixth grader's sentence illustrates a noun-clause that is the REIFICATION of an EVENT to which there is a definite EMOTIONAL RESPONSE:

(592) IT WAS VERY SAD FOR EVERYONE IN THE UNITED STATES WHEN HE WAS SHOT TO DEATH IN DALLAS, TEXAS.

The REIFIED EVENT resulted in a noun-clause whose focal point is TIME (WHEN HE WAS SHOT TO DEATH IN DALLAS, TEXAS), and the resulting noun-clause has been extraposed to the end of the student's sentence with a "dummy"-pronoun (IT) filling the vacated NP-slot.

In all the sentences under discussion, (587)-(592), the presence of WHEN in the students' sentences was not a result of a basic TIME relationship, but of two more basic relationships: (1) OBJECT RESTRICTION, whose OBJECT was some TIME expression; or (2) REIFICATION, whose focal point was some unspecified or some generalized TIME expression. In all instances of sentences like these, the more basic relationship was considered as the one to be tabulated in the data analysis, and therefore sentences like (587)-(588) were considered as containing OBJECT RESTRICTIONS (complete and reduced), while sentences like (589)-(592) were considered as containing REIFICATIONS (extraposed and unextraposed). The TIME relationships were considered internal relationships which, like prepositional phrases, have not been counted in the data analysis below.

## Reification and Topicalization

### Reification

REIFICATION is a semantic relationship that results in the embedding of one sentence within another, in contrast to CONJUNCTION and RESTRICTION where the sentences appear in serial fashion, one after the other, usually with some paratactic (AND, THEN, BUT) or hypotactic connective (IF, SINCE, BECAUSE) between them. Originally, such sentential complements appeared side by side with the sentences in which they are now embedded with no paratactic or hypotactic connectives between them, as these examples from older English cited by Curme illustrate:

(T) THERE'S GOING TO BE SEVERAL FOLKS TALK TOO MUCH, SHORTLY.

(U) WHO WAS IT TOLD YOU THAT?

(V) I HAVE DISCOVERED SOMETHING CONCERNS YOU NEARLY.

(W) I BRING HIM NEWS WILL RAISE HIS DROOPING SPIRITS.

(X) TRUTH IS . . . THE ONLY IMMORTAL THING WAS GIVEN TO OUR MORTALITY TO USE. (1, pp. 235-36)

In the course of language development in English, these sentential complements have become related or connected to their main sentence through some hypotactic connectives that signal the type of relationships that exist between the main and complement sentences. In English, three major types of sentential complements have evolved: infinitive-clauses, gerundive-clauses, and noun-clauses. We will begin our investigation into these three major REIFICATION forms with infinitive-clauses.

### Infinitive-clauses

Prepositional infinitives.--The prepositional infinitive is not the same as the purposive infinitive, the latter often taking the same surface form as the former. For example, in the sentence:

(Y) I LEFT THE PARTY TO GET TO THE AIRPORT ON TIME . . .

the infinitive TO GET is not the prepositional infinitive resulting from a REIFICATION relationship, but the purposive infinitive resulting from a PURPOSIVE restriction relationship. The first two infinitives in the following sentence:

(Z) I WENT TO SEE HIM TO PERSUADE HIM TO LEAVE . . .

are purposive infinitives for they can both be interpreted as IN ORDER TO:

($Z^1$) I WENT *IN ORDER TO* SEE HIM *IN ORDER TO* PERSUADE HIM TO LEAVE.

The prepositional infinitive appears in student sentences like these:

(593) I WANT *TO BE LIKE HIM* BECAUSE I WANT *TO BE A PLACE-KICKER* . . . .

(594) I EXPECT *TO HAVE SO MUCH FUN*.

(595) OUR FAMILY TRIES *TO EAT AT THE SAME TIME* . . . .

The preposition TO has historically meant *motion* or *direction towards*, and was originally the case-signal, along with the appropriate inflectional ending, for *dative* nouns in old English. As the unit *TO + simple infinitive*, which was originally a dative noun, began to acquire more verbal character through the centuries of language development, the TO began to lose its prepositional force and eventually became the case-marker for the dative infinitive as inflectional endings disappeared and word-order became the syntactic principle for English sentence organization. The entire force of the prepositional TO has not been lost, however, for TO still retains the meaning of *direction* or *movement towards*, though it is *towards* some point of time in the future in sentences involving DESIDERATION, EXPECTATION, ENDEAVOR, INDIRECT REQUEST, INITIATION OF ACTION, DECISION, EDUCATION, APPEARANCE, and JUDGMENT.

The following student sentences illustrate sentential complements (REIFIED EVENTS) after verbs of DESIDERATION (WANT, WISH, DESIRE, LIKE, LOVE, HATE):

(596) . . . WHO WANTS *TO BE A BABY ALL HIS LIFE*, PHYSICALLY AS WELL AS MENTALLY.

(597) SHE LIKES *TO TEASE ME A LOT*.

(598) AS YOU SEE, I LOVE THE WATER AND LOVE *TO TALK ABOUT IT*.

These sentences, along with (593), involve DESIDERATION (or DESIDERATIVE ACTION), which deal with desiring that some particular EVENT will occur at some time later than the moment of desiring. Sentence (594) above illustrates sentential complementation (REIFICATION of EVENT) after verbs of EXPECTATION.

EXPECTATION involves expecting that some particular EVENT will occur at some time later than the moment of expecting. In both these cognitive ACTIONS (DESIRING, EXPECTING), there is a futurity-orientation in the desired or expected EVENT, which itself is REIFIED--made into a thing-to-be-thought-about. In sentences (593)-(594), this futurity-orientation of the REIFIED EVENT is signalled through the TO of the prepositional infinitives: TO BE LIKE HIM, TO BE A PLACE-KICKER, TO HAVE . . . FUN. In a DESIDERATION sentence like (593), the REIFICATION relationship between the ACTION of DESIRING and the desired EVENT involves the same ACTOR in both the ACTION and the EVENT, and thus the prepositional infinitive-clauses TO BE LIKE HIM and TO BE A PLACE-KICKER are sufficient to record the REIFIED EVENTS and their futurity-orientation. Even if the activity of desiring were in the past--i.e., YOU WANTED TO HEAR IT--the prepositional infinitive records the futurity-orientation of the REIFIED EVENT: YOU WANTED TO HEAR IT. Futurity is determined by the very act of desiring, wishing, wanting, and thus regardless of when the desiring occurs in time, the desired EVENT is always in the future from the point of view of the person desiring the EVENT to occur. If the desired EVENT involves someone other than the person desiring its occurrence, then the prepositional infinitive will be preceded by a benefactive NP indicating for whom the EVENT is desired. For example, if the desired EVENTS in the above sentence had been I SHOULD BE LIKE HIM and I SHOULD BE A PLACE-KICKER and if the desirer had been SHE, the prepositional infinitive would have been preceded by FOR ME, and the final sentence would have been something like this:

(593A) SHE WANTS FOR ME TO BE LIKE HIM BECAUSE SHE WANTS FOR ME TO BE A PLACE-KICKER

or more commonly (without FOR):

(593B) SHE WANTS ME TO BE LIKE HIM BECAUSE SHE WANTS ME TO BE A PLACE-KICKER.

This benefactive-NP can appear in the final sentence even when the ACTOR in the main clause is identical with the ACTOR in the REIFICATION-clause. This seems to occur when the speaker wants to emphasize that the desired EVENT is for his own benefit; e.g., I WANT FOR ME TO GO HOME, or I WANT ME TO GO HOME.

Sentences (594) and (595) have the same origin, except that the main VP is one of EXPECTATION in (594) and ENDEAVOR in (595). The following student sentences illustrate ENDEAVOR and EXPECTATION main VP's and the REIFICATION-clauses that follow them:

(599) HE MANAGES TO KEEP HIS SPIRITS UP EVEN WHEN HE IS BEHIND.

(600) THE STUDENT BODY OF ANY HIGH SCHOOL CANNOT AFFORD TO HAVE ANY PERSON . . . WHO MAY . . . HOLD UP THE PROGRESS OF THAT BODY.

(601) . . . IF TEENAGERS ARE READY TO ACT LIKE ADULTS THEN THEY SHOULD BE TREATED AS ADULTS.

(602) . . . AND THAT PERSON IS WILLING TO DO THE DUTIES BOB LEFT BEHIND.

The TO + infinitive again signals the futurity-orientation of the REIFIED EVENT with respect to the ACTION of EXPECTING and TRYING.

In sentences involving INDIRECT REQUEST, the prepositional infinitive also indicates the futurity-orientation of the REQUEST being made. For example, in these student sentences there is an indirect report of either a direct question or a direct command (or, more politely, a direct instruction):

(603) . . . I'LL ASK HIM TO TEACH YOU TOO.

(604) . . . HE PROBABLY TOLD MICKEY TO PLAY BASEBALL WHEN HE GREW UP.

(605) . . . THE STUDENT COUNCIL SHOULD CONTINUE TO URGE HIM TO REALLY WORK.

(606) BOB DEVON HAS PROMISED TO CLEAN UP HIS WORK . . . .

The direct discourse underlying sentence (603) is something like either of these:

(603A) SPEAKER [TO HEARER]: "(PLEASE) TEACH MY FRIEND TOO."

(603B) SPEAKER [TO HEARER]: "WILL YOU TEACH MY FRIEND TOO?"

Either form is used by native speakers to ask someone for help; depending on the relationship between speaker and hearer, the speaker will select the appropriate alternative. The tone of voice when delivering the request also determines the hearer's response. If the speaker were then to report this conversation to still another person, he would use the indirect discourse form in English: I ASKED HIM . . . , I TOLD HIM . . . . The REIFICATION-clause that follows the indirect question (or command) is the prepositional infinitive, with the TO recording the futurity of the original WILL of the direct question or the direct imperative.* The direct discourse of sentence (604) might have been either of these:

(604A) SPEAKER [TO HEARER]: "MICKEY, (PLEASE) PLAY BASEBALL WHEN YOU GROW UP."

(604B) SPEAKER [TO HEARER]: "MICKEY, WILL YOU (PLEASE) PLAY BASEBALL WHEN YOU GROW UP?"

If this conversation were then reported to a third person, the speaker might use the indirect discourse form: I TOLD MICKEY . . . , or I ASKED MICKEY . . .: I TOLD (ASKED) MICKEY TO PLAY BASEBALL WHEN HE GREW UP. The prepositional infinitive records the futurity of the original imperative (or the WILL of the polite question/command). The strength of the original direct request is often revealed in the choice of ASK or TELL. TELL suggests a strong imperative; ASK, a politer imperative. For example, in I ASKED HIM TO GO TO THE PARTY, the speaker probably used the polite imperative (with PLEASE) or the polite question/command; however, in I TOLD HIM TO GO TO THE PARTY, the speaker was giving an instruction or a definite command, and undoubtedly used the strong imperative (without PLEASE) with rising intonation (frequently reflected in print by an exclamation mark).

In the following student sentences, we see the prepositional infinitive reflecting the futurity-orientation of the REIFICATION-clauses following VP's of INITIATING ACTION (BEGIN, GET [in the sense of BECOME], START):

(607) RIGHT NOW THE LEAVES ON THE TREES ARE BEGINNING TO CHANGE THEIR COLORS

(608) THE CAR IS GETTING TO LOOK LIKE IT WENT THROUGH WORLD WAR II

(609) MORE PEOPLE STARTED TO TAKE AN INTEREST IN ME

following VP's of DECISION (CHOOSE):

(610) I CHOOSE A--TO HAVE HIM REMOVED FROM OFFICE

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*There can be no doubt of an original WILL in direct imperatives, for the tag-question for such imperatives is always "WON'T YOU?": "PLEASE HELP ME WITH MY HOMEWORK, WON'T YOU?" Even if this were not so, the time-orientation of an imperative is always future, for in delivering an imperative, the speaker is always asking for something to be done at a time later than his command--even though, frequently, the requested action is to be taken almost immediately after the command is given.

(611) THE BEST CHOICE WOULD HAVE TO BE THE FIRST, TO HAVE THIS GUY REMOVED FROM OFFICE*

following VP's of EDUCATION (TEACH, LEARN):

(612) . . . THE OTHER STUDENT COULD TEACH HIM TO BE MORE RESPONSIBLE

(613) I LEARNED TO WATER SKI THIS SUMMER

following VP's of APPEARANCE (SEEM):

(614) IT WILL SEEM LIKE OLD TIMES TO SEE YOU RUNNING AROUND AGAIN WITH THE BOYS IN OUR TOWN

(615) THEY SEEMED TO FEEL PRETTY MUCH THE SAME WAY YOU AND YOUR FRIENDS DO

and following VP's of JUDGMENT (GREAT, HARD, EASY, RARE, IMPORTANT, UNUSUAL, WISE, FAIR, TERRIBLE, GOOD, BEST, FUN, LUCKY):

(616) IT REALLY IS GREAT FOR YOU TO BE MOVING INTO OUR NEIGHBORHOOD.

(617) WHEN PEOPLE ARE AROUND YOU, IT'S KIND OF HARD TO KISS YOUR MOM.

(618) IT IS IMPORTANT TO BE TOGETHER IN OUR COUNTRY TOO.

(619) IT IS NOT UNUSUAL FOR A FAMILY TO SIT DOWN . . . AND WATCH A SHOW THE WHOLE FAMILY CAN ENJOY.

(620) IN THE END IT WOULD BE MUCH WISER TO STRAIGHTEN OUT THE BUSINESS WITH THE HELP OF ANOTHER PERSON.

It is important to note that in sentences (614)-(620) the REIFICATION-clauses come at the end of the sentences with a "dummy" pronoun (usually IT, sometimes THIS) in the "formal subject" position at the beginning of the sentences. After VP's of APPEARANCE and JUDGMENT, it is frequent to employ the topicalization device known as extraposition, which moves "heavy subjects" (like noun-clauses and infinitive-clauses) to the terminal position in English sentences. It is probably worth noting that the only type of student difficulty with infinitive-clauses of this type occurred in this sentence:

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*Both sentences involve infinitival-clauses in apposition-positions, though this does not change their status as REIFICATION-clauses since both are simply variants of these sentences:

(610A) I CHOOSE TO HAVE HIM REMOVED FROM OFFICE (PLAN A).

(611A) THE BEST CHOICE WOULD HAVE TO BE TO HAVE THIS GUY REMOVED FROM OFFICE (THE FIRST PLAN).

(621) *. . . SINCE THERE IS NO ACCURATE ACCOUNTING IT COULD BE EASY OF ANY LOAFER TO DO

where the failure of the benefactive FOR to appear before the ACTOR-NP in the infinitive-clause (an apparent requirement when the ACTOR in the REIFICATION-clause is not identical with the ACTOR in the main EVENT-clause) is the only inappropriate form in the sentence.

It is interesting to note that VP's of DESIDERATION, EXPECTATION, and INDIRECT REQUEST can also be followed by noun-clauses containing modals that imply futurity with respect to the time of the VP. For example, these sentences containing INDIRECT REQUEST VP's:

(AA) I TOLD HIM TO SEE YOU AT THE PARTY

(BB) I ASKED HIM TO HELP ME WITH MY HOMEWORK

could also have appeared with noun-clauses containing modals implying futurity:

(CC) I TOLD HIM THAT HE SHOULD SEE YOU AT THE PARTY.

(DD) I ASKED HIM IF HE WOULD HELP ME WITH MY HOMEWORK.

Also, the following sentences containing EXPECTATION VP's:

(EE) I HOPE TO SEE YOU AT THE PARTY

(FF) I EXPECT TO SEE YOU AT THE PARTY

could have appeared as:

(GG) I HOPE THAT I WILL SEE YOU AT THE PARTY.

(HH) I EXPECT THAT I WILL SEE YOU AT THE PARTY.

The prepositional infinitive may therefore be considered as an alternate variant of noun-clauses containing modals that imply futurity, where the TO of the prepositional infinitive records the futurity originally reflected in the modal auxiliary of the noun-clause.

Simple infinitives.--The simple infinitive appears after any auxiliary or modal verb that reflects a meaning other than the simple past or present indicative statement. These auxiliaries and modals now carry whatever tense and number indications are demanded by meaning and surface concord, leaving the simple infinitive to record the ACTION or STATE-OF-CONDITION of the thought being processed. In English the simple infinitive may follow the auxiliaries BE, DO, and HAVE, and the modals WILL, SHALL, WOULD, SHOULD, CAN, COULD, MAY, MIGHT, MUST, OUGHT TO, HAVE TO, BE TO, GET TO, NEED TO, DARE TO, . . . .

The simple infinitive also appears as the REIFIED EFFECT following a CAUSAL VP in such student sentences as these:

(622) HIS SKIN IS A DEEP COPPERY COLOR, WHICH WOULD MAKE . . . THE GIRLS SWOON.

(623) . . . I'LL WAIT AND LET YOU SEE THEM YOURSELF WHEN YOU COME.

(624) HE HELPS HIS BROTHERS TAKE APART A 1932 AND PUT IT BACK TOGETHER.

It is interesting to note that in such sentences as these:

(625) HE FORCED ME TO DO MY HOMEWORK BEFORE I WATCHED TV

(626) HE ALLOWED ME TO WATCH TV BEFORE I DID MY HOMEWORK

(627) FIRST HAVE SOME PERSON WHO IS EFFICIENT HELP HIM TO GET HIS NOTES . . . BACK IN ORDER AND UP TO DATE

the simple infinitive is preceded by the preposition TO--the signal for futurity-orientation in the REIFIED EVENT. In any CAUSE-EFFECT relationship, the EFFECT will always occur later than the CAUSE; therefore, there is always an element of futurity in the EFFECT. In the case of the VP HELP, perhaps the duration of the REIFIED EFFECT over a relatively long period of time is what accounts for the prepositional infinitive in sentence (627), while the relatively short duration of the REIFIED EFFECT accounts for the simple infintive in (624). This long-range/short-range distinction does not explain why only the simple infinitive appears after MAKE and LET in sentences (622) and (623), nor why only the prepositional infinitive appears after the synonymous FORCE and ALLOW of sentences (625) and (626). There is just as much futurity implied in MAKE and LET as in FORCE and ALLOW, a futurity that would make the prepositional infinitive the expected REIFICATION, rather than the simple infinitive. Possibly MAKE, LET, and even HELP are becoming modals like WILL, SHALL, SHOULD, WOULD, CAN, COULD, MAY, MIGHT and MUST. If so, this would account for the presence of the simple infinitive after MAKE, LET and short-range HELP, rather than the prepositional infinitive. LET certainly resembles MAY (and CAN in speech) in its meaning of PERMISSION, and may by analogy be drifting into the same modal construction expected of MAY (CAN). The drift of HAVE TO, GET TO, and OUGHT TO into the modal group suggests that modals are a still-developing linguistic category in English. There are several others like HELP whose status as modals is ambiguous: DARE and NEED. When operating as modals, they seem to require the simple infinitive; however, when operating as VP's in their own right, they seem to require the prepositional infinitive:

(II) HE DARE THREATEN ME. / HE DARES TO THREATEN ME.

(JJ) HE NEED ONLY STUDY. / HE NEEDS ONLY TO STUDY.

Perhaps MAKE and LET have also become modals and therefore always take the simple infinitive; perhaps FORCE and ALLOW are still VP's and therefore require the prepositional infinitive. On the other hand, perhaps HELP is sometimes a modal and sometimes a VP (like DARE and NEED), taking the simple infinitive when a modal and the prepositional infinitive when a VP. The prepositional infinitive after FORCE, ALLOW, and HELP (when a VP) records the futurity implicit in such CAUSE-EFFECT relationships.

In the following sentences, however, there is no sense of modality in the VP's of SAW and HEARD:

(KK) I SAW HIM LEAVE THE SCENE OF THE ACCIDENT.

(LL) I HEARD HIM RING THE DOORBELL.

Yet these VP's are followed by simple infinitives, not prepositional infinitives; in fact, they cannot be interpreted as prepositional infinitives:

(MM) *I SAW HIM TO LEAVE THE SCENE OF THE ACCIDENT.

(NN) *I HEARD HIM TO RING THE DOORBELL.

What we have here in these simple infinitive-clauses are PERCEIVED EVENTS, EVENTS that have been witnessed by two of the physical senses. SEE in sentence (KK) does not mean UNDERSTAND, for that relationship can only be rendered through a noun-clause: I SAW

THAT HE ARRIVED LAST NIGHT cannot be interpreted as meaning that the speaker was physically SEEING that EVENT occur. Interestingly enough, there are sentences like the following which refer to the same EVENTS:

(OO) I SAW HIM LEAVING THE SCENE OF THE ACCIDENT.

(PP) I HEARD HIM RINGING THE DOORBELL.

PERCEIVED EVENTS, then, are EVENTS that have actually occurred, rather than EVENTS that may occur at a future time; therefore, the unacceptability of the prepositional infinitives in sentences (MM) and (NN) follows from the lack of any futurity in the REIFIED EVENTS. The difference between the appearance of the simple infinitives in sentences (KK) and (LL) and the gerundives in sentences (OO) and (PP) seems to be whether the EVENT is perceived as taking place at the time of the VP (durative) or whether the EVENT is perceived as having been completed (point-action). If the PERCEIVED EVENT is thought of as simultaneous in time with the VP, then the gerundive is the appropriate form of the REIFIED PERCEIVED EVENT; if the PERCEIVED EVENT is thought of when it has been completed, then the simple infinitive is the appropriate form of the REIFIED EVENT. In summary, simple infinitives, then, as REIFIED EVENTS, refer to EVENTS that have occurred; prepositional infinitives, as REIFIED EVENTS, refer only to future EVENTS relative to the main EVENT being recorded.

Gerundive-clauses.--Since we can perceive EVENTS that are ongoing, continuously occurring during the time in which we perceive them, it does not seem unreasonable to attribute a meaning of DURATION to gerundive-clauses following PERCEPTION VP's, as this seventh grader's sentence illustrates:

(628) IT WILL SEEM LIKE OLD TIMES TO SEE YOU RUNNING AROUND AGAIN WITH THE BOYS IN OUR TOWN.

In contrast, this seventh grader's sentence contains a PERCEPTION VP followed by a REIFIED EVENT whose ACTION has been completed:

(629) I CAN'T WAIT TO SEE YOUR FAMILY MOVE IN.

Some gerundive-clauses after PERCEPTION VP's illustrate that the idea implicit in the main proposition VP is time-oriented:

(630) ACTUALLY WE DO SPEND MOST OF OUR TIME WATCHING TELEVISION.

(631) WE DO SPEND A LOT OF TIME TOGETHER ENJOYING T.V. . . .

SPEND TIME means to use up a finite period of time by doing something. There are other sentences in which the main proposition VP is one of three points on a time-continuum that applies to ACTIONS that start, continue, and end--i.e., DOING SOMETHING:

(632) OUR TEACHERS HAVE NOT STARTED *LOADING US DOWN WITH HOMEWORK*.

(633) IF YOU WOULD CONTINUE *URGING HIM TO BE PROMPT* HE WOULDN'T DO ANYTHING.

(634) YOU CANNOT KEEP *HOUNDING AT A BOY TO DO SOMETHING*.

(635) I STOPPED *READING* TO WATCH TELEVISION.

(636) . . . THE OTHER STUDENT WOULD PROBABLY END UP *DOING IT FOR HIM*.

(637) HE IS KEEPING HIS SCHOOL FROM *HAVING ITS RECORDS UP TO DATE*.

(638) HE'S FAMOUS BECAUSE HE SAVED NOTRE DAME FROM *LOSING A GAME*.

Main proposition VP's like that in (632) refer to the beginning point of the DURATIVE ACTION recorded in the gerundive-clause. Main proposition VP's like those in (633) and (634) refer to the continuation of the DURATIVE ACTION in the REIFIED EVENT. Main proposition VP's like those in (635) and (636) refer to the end point of the DURATIVE ACTION in the REIFIED EVENT. Finally, main proposition VP's like those in (637) and (638) refer to the prevention of the DURATIVE ACTION in the REIFIED EVENT from ever occurring at all. The gerundives, then, in these REIFIED EVENTS, refer to DURATIVE ACTIONS--ACTIONS that take time to complete and that are thought of as beginning, continuing, and finally terminating.

There are still other DURATIVE ACTIONS that take place *concurrently* with other ACTIONS, and these relationships result in gerundive-clauses of the type illustrated by these student sentences:

(639) I THINK THE BEST LINE OF ACTION TO TAKE WOULD BE PLAN *D* (SIT IT OUT, *WAITING FOR THE END OF THE TERM WHEN NEW OFFICERS WILL BE ELECTED . . .*) . . . .

(640) USUALLY I AM OUT IN THE BACK YARD *PLAYING GAMES WITH MY BROTHERS AND SISTERS*.

(641) YOU SAID PARENTS GO OUT TO PARTIES AND ARE SITTING AROUND WATCHING TELEVISION ALL DAY.

(642) WE HAVE FUN TOGETHER PLAYING, TALKING AND DOING MANY OTHER THINGS.

(643) IN A FEW HOURS ALAN B. SHEPHERD JR. WOULD BE IN SPACE, TRAVELING AT 5,180 MILES PER HOUR.

(644) IT'S SO FUNNY, BECAUSE HE GOES HOME CRYING.

There are also DURATIVE ACTIONS that are the objects of human cognition--they are "things-to-be-thought-about." For example, there are DURATIVE ACTIONS that are PREFERRED ones (ENJOY, LIKE, LOVE, EAGER TO), and these PREFERRED DURATIVE ACTIONS are REIFIED as gerundive-clauses, as these student sentences illustrate:

(645) YOU WILL ENJOY MOVING HERE BECAUSE THERE ARE MANY FRIENDS IN THE NEIGHBORHOOD.

(646) I LIKE BEING WITH MY FAMILY A LOT.

(647) I'M LOOKING FORWARD TO MEETING YOU AGAIN . . . .

Finally, there are DURATIVE ACTIONS that are JUDGED by human beings as being GOOD, BAD, WORTHY, USELESS, FAIR, UNFAIR, IMPORTANT, UNIMPORTANT, UNUSUAL, COMMON, WISE, or STUPID things to be doing, as these student sentences illustrate:

(648) FIRST OF ALL URGING HIM TO BE PROMPT AND ACCURATE IN WRITING MINUTES AND KEEPING THE STUDENT BODY'S ACCOUNTS WOULD BE USELESS . . . .

(649) I THINK SITTING IT OUT WOULD BE THE MOST STUPID MOVE . . . .

(650) IT WOULDN'T HURT PUTTING IN A NEW PERSON FOR HIS POSITION . . . .

(651) IT IS VERY IMPORTANT HERE IN THE UNITED STATES . . . BEING TOGETHER AS A FAMILY.

(652) IT IS NICE HEARING FROM YOU AGAIN.

(653) IT IS NOT TRUE ABOUT EATING SEPARATELY . . . .

We note that in sentences (650)-(653), like infinitival-clauses following main proposition VP's of JUDGMENT, the more frequent surface sentence is the one which extraposes the gerundive-clause to the terminal position in the sentence. In fact, it was a faulty extraposition of a gerundive-clause that revealed students' difficulty with gerundive-clauses:

(654) *IN GETTING A HELPER, IT'S NOT AS EMBARRASSING AS BEING REMOVED FROM OFFICE.

In this eleventh grader's sentence, what is NOT AS EMBARRASSING AS BEING REMOVED FROM OFFICE is simply GETTING A HELPER, not IN GETTING A HELPER. The faulty construction seems to be modeled after the extraposition device in which a "dummy"-pronoun (usually IT) is introduced to fill the "formal NP-subject"-slot vacated by the gerundive-clause when it is extraposed to the end of the sentence. In sentence (654), however, the gerundive-clause is moved forward, not backward, a preposition (IN) now precedes the gerundive-clause, and a "dummy"-IT is introduced which can only refer to the entire unit preceding it (preposition + gerundive-clause); the result is that the meaning of sentence (654) is no longer synonymous with its original version:

(654A) GETTING A HELPER IS NOT AS EMBARRASSING AS BEING REMOVED FROM OFFICE.*

There is a complicating factor involved with the REIFICATION of durative ACTIONS, for the ACTION may be thought of either as fact or as event, depending on the meaning of the main proposition VP. For example, VP's of sensory perception (SEE, HEAR, . . .) take events as REIFICATIONS, not facts, for one perceives only events that are occurring. On the other hand, VP's of data-reception or transmission (TELL, REPORT, HEAR ABOUT, LEARN) take facts as REIFICATIONS, not events, for one reports or hears about only facts. Still other VP's, like those of emotional response (SURPRISE, AMAZE, ASTONISH, . . .) take both facts and events as REIFICATIONS, since one can react emotionally to either facts or events.

According to Zeno Vendler, the grammatical form of the REIFICATION reflects this difference between fact and event: incomplete nominalizations are factive; complete nominalizations are eventive (11). Therefore, gerundivization is either complete or incomplete, depending on whether the REIFICATION required by the main proposition VP is factive or eventive. Incomplete gerundivization of a potential REIFICATION sentential like JOHN RING DOORBELL would result in JOHN'S RINGING THE DOORBELL, JOHN'S HAVING RUNG THE DOORBELL, JOHN'S BEING ABLE TO RING THE DOORBELL,

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*One of the requirements underlying any surface variation of sentences is that the original meaning be preserved, even though the variant may result in a different focus or emphasis than the original.

JOHN'S RINGING THE DOORBELL PERSISTENTLY--depending on the modal, auxiliary, tense, and restrictive qualifiers of the ACTION of RINGING THE DOORBELL. Complete gerundivization of the same sentential would result in JOHN'S RINGING OF THE DOORBELL, JOHN'S ABILITY TO RING THE DOORBELL, JOHN'S PERSISTENT RINGING OF THE DOORBELL. The complete gerundive cannot have modals, tenses, auxiliaries, or restrictive qualifiers included in it. If modals can be nominalized (as BE ABLE TO into ABILITY TO), and if adverbs can be adjectivized (as PERSISTENTLY into PERSISTENT), they may appear in the complete gerundives; auxiliaries and tenses, however, can never appear in complete gerundives. Thus, complete gerundives are entirely nouns (NP's), for they may be accompanied by genitives and adjectives, just like any other noun (NP); incomplete gerundives are still verbal (VP's) for they may be accompanied by modals, auxiliaries, tenses and restrictive qualifiers, just like any other verb (VP).

That the form of the gerundivization depends entirely upon whether facts or events are associated with the main proposition VP can be illustrated with this prototypical sentence:

(QQ) I VP (JOHN SANG THE STAR SPANGLED BANNER . . .).

If the VP in the main proposition is a sensory-perception VP like HEAR, the gerundive REIFICATION will be complete (JOHN'S SINGING OF THE STAR SPANGLED BANNER . . .), reflecting that sensory-perception VP's take only eventive REIFICATIONS:

(RR) I HEARD JOHN'S SINGING OF THE STAR SPANGLED BANNER.

(SS) I HEARD JOHN'S BEAUTIFUL SINGING OF THE STAR SPANGLED BANNER.

If the VP in the main proposition is a data-reception VP like HEAR ABOUT, the gerundive REIFICATION will be incomplete (JOHN'S SINGING THE STAR SPANGLED BANNER . . . ), reflecting that data-reception (and -transmission) VP's take only factive REIFICATIONS:

(TT) I HEARD ABOUT JOHN'S SINGING THE STAR SPANGLED BANNER.

(UU) I HEARD ABOUT JOHN'S HAVING SUNG THE STAR SPANGLED BANNER.

(VV) I HEARD ABOUT JOHN'S SINGING (HAVING SUNG) THE STAR SPANGLED BANNER BEAUTIFULLY.

With these examples, however, an oversimplification was introduced in order to make the contrast more evident between the REIFICATION forms of incomplete and complete gerundivization. It is more likely that HEAR exists both as a sensory-perception VP and a data-reception VP and that ABOUT is a *factive* signal in the surface sentence in much the same way as THAT is in *factive* noun-clauses. For example, if the data-reception HEAR is the main proposition VP, then the REIFICATION may appear as a factive noun-clause:

(WW) I HEARD THAT JOHN SANG THE STAR SPANGLED BANNER (BEAUTIFULLY).

The factive noun-clause is signalled in the surface sentence by THAT (or sometimes THE FACT THAT); when the data being received takes the factive noun-clause form, all modal, tense, auxiliary and restrictive qualifiers appear in their ordinary forms and positions. Thus the factive noun-clause is one grammatical form of incomplete REIFICATION, and it is generally interchangeable with the incomplete gerundive-clause as the REIFICATION form after data-reception and -transmission VP's. As noted, the incomplete gerundive-clause has a signal resembling the THAT (THE FACT THAT) of the factive noun-clause--the preposition ABOUT. The factive noun-clause and the incomplete gerundive-clause are thus alternate variants of the same meaning:

I HEARD THAT JOHN SANG THE STAR SPANGLED BANNER BEAUTIFULLY = I HEARD ABOUT JOHN'S SINGING THE STAR SPANGLED BANNER BEAUTIFULLY

The REIFICATION-clause may contain indefinite reference to some circumstance of the EVENT's occurrence--time, place, manner, . . . . For example, if the REIFICATION refers to the *fact* of the EVENT itself, a factive noun-clause appears:

(XX) I HEARD ABOUT THE FACT THAT JOHN SANG THE STAR SPANGLED BANNER BEAUTIFULLY.

On the other hand, if the focus in the REIFICATION-clause is upon the manner in which the singing occurred, a manner noun-clause appears:

(YY) I HEARD ABOUT HOW JOHN SANG THE STAR SPANGLED BANNER

or an appositional manner noun-clause following the category manner NP THE WAY:

(ZZ) I HEARD ABOUT THE WAY (THAT) JOHN SANG THE STAR SPANGLED BANNER.

The manner noun-clauses in sentences (YY) and (ZZ) seem to have alternative gerundive-clause variants:

(AA$^1$) I HEARD ABOUT JOHN'S BEAUTIFUL SINGING OF THE STAR SPANGLED BANNER.

(BB$^1$) I HEARD ABOUT JOHN'S SINGING OF THE STAR SPANGLED BANNER.

Note the appearance of the complete gerundive-clause in these variants of manner noun-clauses. Thus it appears that THE FACT THAT and ABOUT + incomplete gerundive are surface variants of each other, while THE WAY THAT/HOW and ABOUT + complete gerundive are surface variants of each other.* Pure fact seems to be represented by the incomplete gerundive preceded by ABOUT (where ABOUT is the factive signal), while factivized circumstances are represented by the complete gerundive also preceded by ABOUT (the factive signal). Apparently, the factive signal in ABOUT overrides the pure eventiveness of the complete gerundive when it is used to distinguish factive circumstances of EVENTS from the factiveness of EVENTS themselves.

Contrast the tolerance of the data-reception HEAR (which can take either complete or incomplete gerundive-clauses after the factive preposition ABOUT) with the strictness of the sensory-perception HEAR: only complete gerundive-clauses can follow sensory-perception HEAR. For example,

(CC$^1$) I HEARD JOHN'S SINGING OF THE STAR SPANGLED BANNER

is the only gerundive-clause that can appear here, for

(DD$^1$) *I HEARD JOHN'S SINGING THE STAR SPANGLED BANNER is unacceptable. The necessary concurrence of the perceiving and the singing is a feature requiring the *complete* gerundive and blocking the *incomplete* gerundive: the distinction here is between *event* and *fact*, for facts are reported *after* the occurrence of the EVENT they are concerned with, not concurrent with it. Note also that ABOUT is required with data-reception HEAR and refused by sensory-perception HEAR; thus, the essential factiveness of data-reception REIFICATIONS and the essential eventiveness of sensory-perception REIFICATIONS is confirmed.

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*It is interesting to note that the hearer's response to each utterance differs. In the case of I HEARD ABOUT JOHN'S SINGING OF THE STAR SPANGLED BANNER, the hearer is likely to inquire, AND HOW WAS IT?, or WAS IT GOOD OR POOR? However, in the case of I HEARD ABOUT JOHN'S SINGING THE STAR SPANGLED BANNER, his response is likely to be, OH, DID HE NOW?; or OH, HE DID?; or HOW DID HE DO?; or DID HE SING WELL? Notice that the pronoun in the latter is HE (with the corresponding pro-verb DO), while in the former, the pronoun is IT (and the verb the copula BE). In short, with the complete gerundivization, SINGING is perceived as an NP for which a neuter pronoun must be used; with the incomplete gerundivization, SINGING is perceived as a VP for whose agent a personal pronoun must be used and for which the pro-verb DO may be substituted.

We have distinguished three types of gerundive-clauses, as illustrated by these sentences:

(EE$^1$) I HEARD JOHN SINGING THE STAR SPANGLED BANNER.

(FF$^1$) I HEARD ABOUT JOHN'S SINGING THE STAR SPANGLED BANNER.

(GG$^1$) I HEARD JOHN'S SINGING OF THE STAR SPANGLED BANNER.

Sentence (EE$^1$) illustrates what we call the *descriptive* gerundive-clause; (FF$^1$) illustrates the *factive* gerundive-clause; and (GG$^1$), the *eventive* gerundive-clause. The *descriptive* gerundive-clause of sentence (EE$^1$) can be interpreted as I HEARD JOHN WHILE (AS) HE WAS SINGING THE STAR SPANGLED BANNER. The *factive* gerundive-clause of sentence (FF$^1$) can be interpreted as I HEARD ABOUT THE FACT THAT JOHN SANG THE STAR SPANGLED BANNER. The *eventive* gerundive-clause of (GG$^1$) can be interpreted as I HEARD THE SINGING OF THE STAR SPANGLED BANNER BY JOHN.

Thus we note that *descriptive gerundive-clauses* and *TIME-restriction-clauses* (of the concurrent ACTION type) may be alternative grammatical forms for expressing the semantic relationship of REIFICATION OF CONCURRENT DURATIVE ACTIONS. *Factive gerundive-clauses* and *noun-clauses* may be alternate grammatical forms for expressing the semantic relationship of REIFICATION OF DURATIVE COMPLETED EVENTS. We further note the parallel variants between representations of *pure fact* (*factive* noun-clauses and ABOUT + *incomplete* gerundive-clauses) and *circumstantial factive* representations (*manner, time, place, . . .* noun-clauses and ABOUT + *complete* gerundive-clauses). Finally, we note that *eventive* gerundive-clauses are the only grammatical representations of the semantic relationship of SENSORY PERCEPTION OF CONCURRENT DURATIVE EVENTS.

*Noun-clauses*.--Noun-clauses as a form of REIFICATION are the surface representation of talking *about* things-in-the-world--facts or fact-like depositions (reasons, results, consequences, . . .) *about* events or circumstances of their occurrence (manner, place, time, degree of intensity, . . .). According to Vendler, noun-clauses are imperfect nominalizations (REIFICATIONS), and are about events, rather than referring directly to the events themselves (44). Noun-clauses, as illustrated by the following student sentences, occur most frequently after main proposition VP's of COGNITION:

(655) DID YOU KNOW WE CHANGED THE NAME OF OUR STREET

(656) . . . IT JUST SHOWS THAT YOU WERE LUCKY ENOUGH TO MAKE IT THROUGH 12 YEARS OF SCHOOLING

(657) THEN I FOUND WHEN I MOVED HERE THAT ONE DAY CAME RIGHT AFTER THE OTHER

(658) I REMEMBER ON OUR VACATION, ONE YEAR, YOU AND I WERE FOREVER IN THE WATER

(659) I THINK THAT HE WAS ONE OF THE BEST HALFBACKS IN THE LEAGUE

after main proposition VP's of VOLITION (DESIDERATION, EXPECTATION):

(660) I WISH WE HAD MORE MEN LIKE HIM IN THE WORLD TODAY

(661) I WISH THAT I WAS HIM . . .

(662) I HOPE I HAVE ANSWERED YOUR QUESTION WELL ENOUGH . . .

and after main proposition VP's of INDIRECT DISCOURSE (REQUEST, REPORT):

(663) MY MOTHER SAID THAT IT WAS A NICE ONE.

(664) HE JUST ACTS LIKE A GENTLEMAN AND ADMITS HE DID IT.

(665) TELL EVERYBODY MY FAMILY AND I SAID HI.

Noun-clauses, as illustrated by the following student sentences, occur most frequently before main proposition VP's of EMOTIONAL RESPONSE:

(666) IT WAS VERY SAD FOR EVERYONE IN THE UNITED STATES WHEN HE WAS SHOT TO DEATH IN DALLAS, TEXAS*

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*Before extraposition was applied to this sentence the noun-clause was before the main proposition VP.

and before main proposition VP's of JUDGMENTAL RESPONSE:

(667) IT'S VERY IMPORTANT THAT AN AMERICAN FAMILY IS TOGETHER.*

(668) IT IS TRUE THAT LIFE IN AMERICA IS DIFFERENT FROM LIFE IN EUROPE.*

The most striking feature of the main proposition VP's after or before which noun-clauses appear as REIFICATION-clauses is that they involve human intellectual or emotional activity--the human response to things (events)-in-the-world.

The prototype-sentence used to illustrate the REIFICATION relationship resulting in gerundive-clauses can be used again here to illustrate the REIFICATION relationship resulting in noun-clauses:

(HH$^1$) I VP (JOHN RANG DOORBELL . . .).

If it is true that noun-clauses result from the REIFICATION of some human being's mental (intellectual or emotional) response to some EVENT, then this response is either to the fact of the EVENT's occurrence-in-the-world, or to a fact about some circumstance of its occurrence (its manner, its place, its time, its degree of intensity). The proto-sentence above represents the reference to the pure fact of an EVENT: THE FACT THAT JOHN RANG THE DOORBELL. As pure fact, it can be asserted or denied, believed or doubted, remembered or forgotten, mentioned, stated, imagined, expressed, contradicted. As pure fact, it has only one grammatical form: the factive noun-clause. Factive noun-clauses occur after any of the mental responses catalogued above:

$$\text{(II}^1\text{) I} \left\{\begin{array}{l} \text{ASSERTED}\\ \text{DENIED}\\ \text{BELIEVED}\\ \text{DOUBTED}\\ \text{REMEMBERED}\\ \text{FORGOT}\\ \text{MENTIONED}\\ \text{STATED}\\ \text{IMAGINED}\\ \text{SAID}\\ \text{KNOW}\\ \text{ARGUED}\\ \text{. . .} \end{array}\right\} \text{THAT JOHN RANG THE DOORBELL.}$$

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*Before extraposition was applied to this sentence the noun-clause was before the main proposition VP.

THAT is quite clearly the factive connective in surface noun-clauses; significantly enough, THE FACT THAT is often an alternative connective for THAT in noun-clauses.

Although the factivized EVENTS presented so far in our discussion have nearly always involved EVENTS that have already occurred (and so the tense of the VP in the REIFICATION-clause has been the past tense), not all factivized EVENTS have already occurred, as sentences (667) and (668) above indicate. The following student sentences further illustrate that EVENTS-to-be-REIFIED can be timeless (in the generalized present tense) after COGNITION VP's:

(669) I GUESS IT'S NORMAL FOR AN ELEVEN-YEAR-OLD

(670) I BELIEVE STEP "A" IS THE BEST POSSIBLE SOLUTION TO THIS PROBLEM

(671) I FEEL BOB IS MUCH LIKE PRESIDENT R. SLEEPER

(672) . . . I THINK HE IS ONE OF THE . . . BEST BASKETBALL PLAYERS OF THE WORLD

(673) BOB KNOWS HE ISN'T DOING A GOOD JOB AND ISN'T REFORMING

(674) THIS MIGHT SHOW HIM THAT HE REALLY HAS BEEN NEGLECTING HIS DUTIES

after VOLITION VP's:

(675) I HOPE YOU ARE HAPPY WHEN YOU COME, AND WHEN YOU'RE HERE I HOPE YOU STAY HAPPY

(676) I HOPE YOU LIKE IT DOWN HERE

and after INDIRECT DISCOURSE VP's:

(677) THE GOVERNMENT SAYS YOU ARE MATURE ENOUGH TO TAKE ORDERS . . . .

(678) . . . I AM NOT SAYING EVERY TEENAGER WHO HAS AN AFTER-SCHOOL JOB OR A REGULAR JOB IS MATURE.

(679) TELL YOUR FRIENDS LIFE IN AMERICA IS MUCH LIKE THAT IN EUROPE.

(680) TELL YOUR FRIENDS THAT SOME OF IT IS TRUE AND SOME IS NOT.

Not only can EVENTS-to-be-REIFIED be timeless (when generalizations are being drawn about the EVENT), but they can also be projected into the future or into hypothetical conjecture about the future. These student sentences illustrate the modality (real future or hypothetical future) that appears in REIFIED EVENTS following COGNITION VP's:

(681) I'LL BET YOU TEN TO ONE YOU WILL LIKE IT BETTER THAN YOUR OLD NEIGHBORHOOD

(682) . . . I BELIEVE THAT THE MAJORITY COULD BE CONSIDERED AS ADULTS

(683) HE'LL JUST FIGURE YOU WOULDN'T HAVE THE NERVE TO DO ANYTHING

(684) I FEEL THAT NO ONE CAN DO THE JOB FOR YOU IF YOU CAN'T DO IT YOURSELF

(685) I MEAN A PERSON CAN'T HAVE SMOOTH SAILING ALL THROUGH HIS LIFE

(686) MAYBE SOME PEOPLE WILL LEARN YOU CAN'T TAKE A PERSON BY HIS POPULARITY ONLY

(687) I KNOW YOU WILL BE UNHAPPY THAT YOU ARE MOVING

(688) THIS YEAR, THOUGH, ALL RED SOX FANS ARE CONFIDENT THAT THEY WILL BE THE WORLD CHAMPIONS IN OCTOBER

following VOLITION VP's:

(689) I WISH I COULD BE TOM ULRICH

(690) I WISH THAT I COULD PITCH AS GOOD AS HE COULD

(691) WE HOPE THAT YOU'LL ENJOY THESE ACTIVITIES

(692) I HOPE YOU CAN UNDERSTAND ME

and following INDIRECT DISCOURSE VP's:

(693) BOB HAS PROMISED TIME AFTER TIME THAT HE WOULD DO HIS WORK . . . .

(694) I WOULD RECOMMEND THAT SOMEONE MORE EFFICIENT COULD HELP BOB . . . .

(695) . . . HE SAYS HE CAN'T WAIT TO SEE YOU . . . .

It is interesting to note that so far in all the noun-clauses considered, the factive connective (THAT) is either explicitly stated or implicitly present (for it can be supplied if there is any doubt about the facticity of the REIFICATION-clause). There are, however, noun-clauses in which the explicit connective is IF, not THAT; for example, these student sentences illustrate the use of IF as a noun-clause connective after COGNITION VP's:

(696) I WOULD LIKE TO KNOW IF YOUR FRIENDS EVER VISITED AMERICA

(697) I WONDER IF EUROPE IS AS NICE A PLACE AS AMERICA IS

(698) WHEN I HAVE NO SCHOOL, I GO DOWN THE BLOCK TO SEE IF MY FRIEND CAN PLAY

after INDIRECT DISCOURSE VP's:

(699) ONCE HE WAS ASKED IF NATE THURMOND WAS THE BEST CENTER

and both before and after JUDGMENTAL VP's:

(700) IT WOULDN'T BE FAIR TO ANYONE IF THEY KEPT HIM IN OFFICE . . . .

(701) WHEN HE IS UP AT BAT HE CAN TELL IF IT IS GOING TO BE GOOD OR NO GOOD.

We note that IF appears as a noun-clause connective when the REIFIED EVENT is hypothetically presenting mutually exclusive alternatives--when IF can be interpreted as WHETHER OR NOT.

In addition to factive noun-clauses as REIFICATIONS of mental response VP's in main propositions, there exist circumstantial noun-clauses which refer to particular details or circumstances of the factivized EVENT. The focus of the speaker's mental response is upon the fact of some localized circumstance or detail of the EVENT, rather than upon the fact of the occurrence of the EVENT itself. However, beyond pointing to the fact of the manner, time, place, . . . of the EVENT's occurrence, this focus is not specific. For example, in a sentence like I KNOW WHO RANG THE DOORBELL, the circumstantial noun-clause (WHO RANG THE DOORBELL) indicates that the focus of the speaker is upon the person who rang the doorbell. In a sentence like I KNOW WHEN JOHN RANG THE DOORBELL, the circumstantial noun-clause indicates that the speaker's focus is upon the time of John's ringing of the doorbell. Similarly, in a sentence like I KNOW HOW JOHN RANG

THE DOORBELL, the speaker's focus is upon the manner in which John rang the doorbell. What we notice in each of these noun-clauses is that the connective reveals what particular circumstance of knowledge of information about the EVENT is being emphasized by the speaker. For example, this seventh grader's sentence illustrates that the circumstance being focused upon is PERSON (WHO):

(702) I GUESS I HAD BETTER TELL YOU WHO YOU WILL HAVE FOR WHAT.

The following student sentences illustrate the focal point of REASON (WHY):

(703) NOW YOU SEE WHY I WOULD WANT TO BE LIKE HIM

(704) STUDENTS WANT TO KNOW WHERE ALL THE MONEY IS GOING AND WHY

while these illustrate the focal point of MANNER (HOW):

(705) WRITE AND TELL ME HOW YOUR FRIENDS FEEL ABOUT AMERICAN FAMILIES NOW

(706) SO I . . . WROTE TO YOU TO TELL YOU HOW HAPPY I WAS

and these illustrate the focal point of circumstance of TIME (WHAT TIME, HOW INFREQUENT):

(707) AT OUR HOUSE, MY BROTHER AND I BOTH KNOW WHAT TIME DINNER IS

(708) REMEMBER HOW INFREQUENT THE FIELD TRIPS WERE

and these illustrate the focal point of circumstance of PLACE (WHERE):

(709) . . . I WOULD LIKE TO KNOW WHERE THEY GOT THEIR INFORMATION

(710) STUDENTS WANT TO KNOW WHERE ALL THE MONEY IS GOING AND WHY

and, finally, these illustrate the focal point of OBJECT, ACTION, or EVENT (WHAT):

(711) PEOPLE ARE SOMETIMES FORTY YEARS OLD BEFORE THEY REALIZE WHAT TRUE MATURITY IS.

(712) I GUESS I HAD BETTER TELL YOU WHO YOU WILL HAVE
FOR *WHAT* . . . .

It is true that in a sentence like I FORGOT WHO RANG THE DOORBELL, the speaker no longer has the knowledge of the identity of the person ringing the doorbell, while in a sentence like I KNOW WHO RANG THE DOORBELL, he is withholding the knowledge of the identity of the doorbell-ringer from the hearer. Apparently then, indefiniteness, or lack of specificity, about the circumstance of the person's identity occurs whether the speaker knows the particular details or not. The factive connective WHO reveals that the *general* nature of the localized focus is upon a person, leaving the specific details of the person's identity unspecified in each case, though for different reasons in each case.

In the proto-sentence (I VP [EVENT: JOHN RANG DOORBELL]), if there are no indefinite circumstances present in the EVENT-to-be-REIFIED, its REIFICATION form will be a simple *factive* noun-clause that represents the *factivization* of the EVENT itself. If there are, on the other hand, indefinite circumstances in the EVENT-to-be-REIFIED, its REIFICATION form will be a *circumstantial* (manner, time, place, motivation, degree, . . .) noun-clause that represents the *factivization* of some localized (but indefinite) circumstance(s) about the EVENT.

There is a topicalization form of *factive* and *circumstantial* noun-clauses in which the original noun-clause becomes an appositive to an NP that makes explicit the type of factivization taking place in the mental response REIFICATION. These student sentences illustrate the type:

(713) I LIKE *THE WAY* *MR. ANDERSON TEACHES US SCIENCE AND SPELLING*. . . .

(714) IF *WORD* EVER GOT AROUND *THAT CENTRAL HIGH COULD NOT SOLICIT OFFICERS*, WELL, YOU KNOW THE RESULT.

(715) I THINK IT'S *GREAT NEWS* *THAT YOU'RE COMING TO LIVE IN COLUMBUS*.

In each sentence, the original noun-clause now follows the category NP introduced by the topicalization. In sentence (713), the circumstance of manner has been focused upon, since the manner connective HOW has been expanded into the manner-category NP THE WAY (THAT). In sentence (714), the "dummy"-pronoun of extraposition ("IT") has been expanded into a category NP WORD, and in sentence (715), the JUDGMENT VP GREAT has been expanded into a category NP GREAT NEWS. These three sentences appear to be surface variations of REIFICATION sentences, surface variations which make explicit the category of the circumstantial noun-clause without changing the meaning relationship existing between the main proposition and its complement.

Another sentence variation of noun-clauses occurs when circumstantial noun-clauses contain a modal of obligation (SHOULD) or possibility (CAN, BE ABLE TO, COULD). Since these modals, like all modals, involve future-orientation of the noun-clause with respect to the main proposition, the infinitival noun-clause is often the surface form of these REIFICATIONS. For example, I KNOW WHERE I SHOULD GO NOW can have the surface variant I KNOW WHERE TO GO NOW; and I KNOW HOW I SHOULD DO MY HOMEWORK can appear as I KNOW HOW TO DO MY HOMEWORK. This sixth grader's sentence contains two infinitival noun-clauses:

(716) I WISH I WAS LIKE HIM BECAUSE HE KNEW HOW TO EXPRESS HIMSELF (=HOW HE SHOULD/COULD EXPRESS HIMSELF), AND HE ALWAYS KNEW WHAT TO SAY (=WHAT HE SHOULD/COULD SAY).*

Still another variation of noun-clauses are the reduced noun-clauses, those noun-clauses which result when portions of their VP's are deleted. For example, in this eleventh grader's sentence:

(718) THE GOVERNMENT CONSIDERS EIGHTEEN A SATISFACTORY AGE FOR MILITARY SERVICE

the BE-form in the noun-clause VP has been deleted. In this sixth grader's sentence:

(719) *I HAVE NEVER MET HIM AND I DON'T THINK I WILL

we come across one of the usual difficulties students have with reduction of repetitive VP's: the VP of the noun-clause is obviously identical with the VP of the first sentence of the coordinated pair: MEET HIM. The difficulty is that in its first appearance as a VP MEET HIM is in its participial form HAVE . . . MET HIM, while in its second appearance (in the noun-clause) it should appear in its simple infinitive form after the modal WILL: WILL MEET HIM. Surface concord rules in English demand that repetitive VP's be deleted only if they are in exactly the same surface form. The second appearance of the repetitive VP (MEET HIM) is not in the identical form (participial -EN form) and therefore should not have been deleted, as this amended version of sentence (719) illustrates:

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*The latter infinitival noun-clause (WHAT TO SAY) should not be confused with reduced restrictive relative clauses which also use the connective WHAT, meaning THAT WHICH. For example, in this eleventh grader's sentence:

(717) HE SHOULD BE ABLE TO KNOW WHAT TO DO

the clause WHAT TO DO is actually interpretable as THAT WHICH HE SHOULD DO. This sentence illustrates a reduced restrictive relative clause, rather than an infinitival noun-clause.

(719A) I HAVE NEVER MET HIM AND I DON'T THINK I WILL EVER MEET HIM.

The negative in the second sentence of the pair has been transferred out of the noun-clause and attached to the main proposition VP: DON'T THINK--creating one more non-identical surface form in the repetitive VP that should have blocked its deletion. Still another type of reduced noun-clause is illustrated by this seventh grader's sentence:

(720) AND GUESS WHAT?

The original noun-clause has been reduced to only the connective WHAT, but it can easily be recovered:

(721) AND GUESS WHAT (HAPPENED?, IT IS?, I'M GOING TO TELL YOU?)

In sentence (709) there were two noun-clauses after the COGNITION VP KNOW: STUDENTS WANT TO KNOW WHERE ALL THE MONEY IS GOING AND WHY. There is no difficulty recovering the remainder of the reduced noun-clause WHY: STUDENTS WANT TO KNOW WHERE THE MONEY IS GOING AND WHY IT IS GOING THERE. Even in sentences containing extraposed noun-clauses, reductions can take place, as this eleventh grader's sentence illustrates:

(722) AS A TEENAGER, I FIND IT A BIT DIFFICULT (=IT IS A BIT DIFFICULT) TO DECIDE ON ANY SPECIFIC AGE OR TIME WHEN TEENAGERS DESERVE BEING TREATED AS ADULTS.

There have been some ambiguous sentences involving noun-clauses produced by project students. The ambiguity in this seventh's grader's sentence:

(723) THERE ARE OTHER PLACES TO GO THAT I KNOW WILL BE FUN

results as much from the "THERE"-cleft as it does from the embedded I KNOW, a cognitive VP that generally is followed by some REIFICATION-clause. It is not clear which of these was the original sentence before clefting:

(723A) WE CAN GO TO OTHER PLACES THAT I KNOW WILL BE FUN.

(723B) I KNOW OTHER PLACES THAT IT WILL BE FUN TO GO TO.

If the main proposition VP is the MOTION VP CAN GO TO OTHER PLACES, then the relationships involved are (1) OBJECT RESTRICTION of the NP OTHER PLACES, resulting in a restrictive relative clause THAT . . . WILL BE FUN, and (2) REIFICATION of the OBJECT RESTRICTION, following the COGNITION VP KNOW, resulting in an embedded noun-clause I KNOW THAT THESE OTHER PLACES WILL BE FUN. The combination of both of these semantic relationships results in sentence (723A), which in turn could be topicalized through a "THERE"-cleft focusing upon the LOCATIVE NP OTHER PLACES to produce the sentence originally produced by the student, (723). On the other hand, if the main proposition VP is the COGNITIVE VP KNOW OTHER PLACES, then the relationships involved are (1) REIFICATION of the EVENT WE CAN GO TO OTHER PLACES preceding the JUDGMENTAL VP WILL BE FUN and a subsequent extraposition of the REIFIED EVENT, resulting in the infinitival-clause IT WILL BE FUN TO GO TO OTHER PLACES; and (2) OBJECT RESTRICTION of the LOCATIVE NP OTHER PLACES in the main proposition VP, resulting in the restrictive relative clause containing the infinitival-clause THAT IT WILL BE FUN TO GO TO. The combination of both of these semantic relationships results in sentence (723B):

(723B) I KNOW OTHER PLACES THAT IT WILL BE FUN TO GO TO

which in turn can be topicalized through a "THERE"-cleft focusing upon the LOCATIVE NP OTHER PLACES to produce the sentence originally written by the student:

(723) THERE ARE OTHER PLACES TO GO THAT I KNOW WILL BE FUN.

The topicalization of either set of semantic relationships results, thus, in the same surface sentence, creating the ambiguous sentence (723).

Another illustration of ambiguity involving REIFICATION-clauses and the "THERE"-clefting is this seventh grader's sentence:

(724) THERE ARE A LOT OF NICE GIRLS IN THE SEVENTH GRADE THAT I KNOW WILL LIKE YOU.

Again we have a cognitive VP KNOW embedded in a "THERE"-cleft, and we cannot tell which is the original sentence before clefting:

(724A) I KNOW THAT A LOT OF NICE GIRLS IN THE SEVENTH GRADE WILL LIKE YOU . . .

(724B) I KNOW A LOT OF NICE GIRLS IN THE SEVENTH GRADE THAT WILL LIKE YOU.

After the cognitive VP KNOW we expect a REIFICATION-clause, like the noun-clause in sentence (724A) THAT A LOT OF NICE GIRLS IN THE SEVENTH GRADE WILL LIKE YOU. However, KNOW is sometimes used to mean BE ACQUAINTED WITH, in which meaning it is no longer a COGNITIVE VP, but an ACQUAINTANCE VP that requires an OBJECT that is human. If KNOW is not the COGNITIVE VP, but merely the synonym for BE ACQUAINTED WITH, then we might expect the human OBJECT that follows it to be RESTRICTED, like the restrictive relative clause in sentence (724B) A LOT OF NICE GIRLS . . . THAT WILL LIKE YOU. The ambiguity arises in the student's original sentence, since either sentence (724A) containing the cognitive KNOW and a noun-clause or sentence (724B) containing the ACQUAINTANCE KNOW and a restrictive relative clause can be topicalized through a "THERE"-cleft focusing on the OBJECT NP A LOT OF NICE GIRLS IN THE SEVENTH GRADE to produce sentence (724):

(724) THERE ARE A LOT OF NICE GIRLS IN THE SEVENTH GRADE THAT I KNOW WILL LIKE YOU.

Still another kind of ambiguity involving REIFICATION-clauses can be illustrated by this sixth grader's sentence:

(725) I WISH I WERE LIKE HIM BECAUSE HE WAS BRAVE AND HE KNEW WHAT HE WAS DOING AND HE HANDLED ALL THINGS WITH GREAT KNOWLEDGE.

The ambiguity in this sentence arises from two interpretations of the clause WHAT HE WAS DOING following the COGNITIVE VP KNEW: either it means THAT WHICH HE WAS DOING, or it means AN INDEFINITELY SPECIFIED OBJECT, ACTION, OR EVENT HE WAS DOING. The first interpretation results if the semantic relationship involved is OBJECT RESTRICTION in which the OBJECT-being-RESTRICTED is something like WHATEVER IT WAS HE WAS DOING AT THE TIME, expressed as the indefinite pronoun THAT (which combined with the relative pronoun WHICH of the restrictive clause becomes the surface connective WHAT). The second interpretation results if the semantic relationship is REIFICATION in which there is an indefinite circumstance of the REIFIED EVENT that is being focused upon--namely, an OBJECT, ACTION or EVENT whose identity is left unspecified by the student: HE WAS DOING SOMETHING. In sentence (725), it is more likely that one of the reasons the student admired HIM (I WISH I WERE LIKE HIM) is that he appeared to have knowledge of his ACTIONS--that is, HE KNEW WHAT IT WAS THAT HE WAS DOING, rather than HE KNEW THAT HE WAS DOING SOMETHING. But the ambiguity remains, for it is not inconceivable that the student meant HE KNEW THAT HE WAS DOING SOMETHING.

Most of the student difficulties with REIFICATION-clauses occur with the tense of the noun-clause: it is present or past tense when the main proposition VP clearly indicates it ought to contain a modal reflecting the futurity of the REIFIED EVENT, as these students' sentences illustrate:

(726) *SO DO NOT WORRY BECAUSE I KNOW YOU WILL LIKE IT HERE AND I'LL BET YOU HAVE AT LEAST ONE FRIEND BY THE END OF THE WEEK.

(727) *WE HAVE BUILT A TREEHOUSE AND I'M SURE YOU WOULD ENJOY IT.

(728) *MICKEY SAYS THAT HE WOULD RETIRE PRETTY SOON.

In all three sentences the modality of the REIFICATION-clause should be WILL, since the prediction (I'LL BET) of the main proposition in sentence (726) clearly calls for the futurity modal in the noun-clause; since the confidence (I'M SURE) of the main proposition in sentence (727) clearly calls for the modality of real future, not hypothetical future, in the noun-clause; and since the TIME-expression PRETTY SOON in the REIFIED EVENT of (728) calls clearly for the modality of real future, not hypothetical future, in the noun-clause.

The serious difficulties that students experienced with REIFICATION-clauses were principally with noun-clauses, as in this seventh grader's sentence:

(729) *YOUR FRIENDS MUST HAVE HEARD ABOUT A FEW OF THE AMERICAN FAMILIES HAVE LITTLE FAMILY LIFE . . . .

Either the factive-signal should have been THAT, if the student intended to use the noun-clause form:

(729A) YOUR FRIENDS MUST HAVE HEARD THAT A FEW OF THE AMERICAN FAMILIES HAVE LITTLE FAMILY LIFE . . .

or a gerundive-clause should result from the REIFICATION relationship, if the preposition ABOUT is used as the factive-signal:

(729B) YOUR FRIENDS MUST HAVE HEARD ABOUT A FEW OF THE AMERICAN FAMILIES HAVING LITTLE FAMILY LIFE . . . .

Another difficulty experienced in student production of noun-clauses can be illustrated by this eleventh grader's sentence:

(730) *JUST BECAUSE A PERSON IS POPULAR DOESN'T MEAN HE CAN DO A JOB WELL.

An EXPLANATION-clause, which is the result of a RESTRICTIVE relationship, cannot function as a REIFICATION-clause before the COGNITIVE VP DOESN'T MEAN. The REIFICATION relationship seems clearly indicated from the COGNITIVE VP MEAN, in which one REIFIED EVENT is being explained in terms of another REIFIED EVENT. Perhaps the EXPLANATION interpretation of the VP DOESN'T MEAN is what caused the student to produce a RESTRICTIVE EXPLANATORY-clause (JUST BECAUSE A PERSON IS POPULAR). Whatever the motivation, the RESTRICTIVE EXPLANATORY-clause cannot do double-duty as a REIFICATION-clause, and what should have been produced is a factive noun-clause like THAT A PERSON IS POPULAR, or THE FACT THAT A PERSON IS POPULAR, either of which would have been appropriate for the REIFICATION-clause before DOESN'T MEAN:

(730A) THE FACT THAT A PERSON IS POPULAR DOESN'T MEAN THAT HE CAN DO A JOB WELL.

(730B) THAT A PERSON IS POPULAR DOESN'T MEAN THAT HE CAN DO A JOB WELL.

## Topicalization

Because word order is an important grammatical principle in English, speakers can emphasize any portion of the thought they are processing into a sentence by placing it in a position that is not usual for it. It is not surprising therefore to find that there are topicalization devices which can be used to give emphasis to different portions of sentences. These devices shift the emphasis around so that the speaker can appropriately reveal the importance of all the sentence parts. The rearrangement of sentence parts by topicalizations does not alter the basic semantic relationships of the original sentence--it merely shifts the focal point of the original idea.

Extraposition.--Extraposition is one of the topicalizations introduced in the earlier discussions of REIFICATION-clauses. The result of the application of the extraposition formula is that (1) the REIFICATION-clause that originally appeared in the initial NP-slot of the sentence now appears in the terminal position of the sentence, and (2) a "dummy"-pronoun (usually IT) appears in the NP-slot vacated by the shifted REIFICATION-clause. Through extraposition, "heavy subject" NP's like noun-clauses can be avoided. Extraposition is most frequently used in English sentences containing noun-clauses, gerundive-clauses and infinitival-clauses that precede JUDGMENTAL main proposition VP's. The following student sentences will illustrate the extraposed infinitival-clause:

(731) IT IS IMPORTANT TO BE TOGETHER IN OUR COUNTRY TOO.

(732) IN THE END IT WOULD BE MUCH WISER TO STRAIGHTEN OUT THE BUSINESS WITH THE HELP OF ANOTHER PERSON.

(733) . . . IT ISN'T REALLY FAIR TO THE OTHER PERSON TO HAVE HIM DO BOB'S WORK AND BOB GET THE CREDIT.

(734) IT COULD BE A LOT EASIER TO KEEP URGING HIM ON . . . .

The original version of sentence (731) illustrates the "heavy subject" infinitival-clause, the kind of subject that many native users of English tend to avoid:

(731A) TO BE TOGETHER IS IMPORTANT IN OUR COUNTRY TOO.

Certainly the infinitival-clauses of sentences (732) and (733) would be awkward in the subject position:

(732A) TO STRAIGHTEN OUT THE BUSINESS WITH THE HELP OF ANOTHER PERSON WOULD BE MUCH WISER IN THE END.

(733A) TO HAVE HIM DO BOB'S WORK AND BOB GET THE CREDIT REALLY ISN'T FAIR TO THE OTHER PERSON.

Perhaps the awkwardness of these sentences stems from the necessary postponement of the JUDGMENTAL VP until the entire infinitival-clause has been completed. One of the results of the extraposition of REIFICATION-clauses is that the JUDGMENTAL VP is given immediately and the OBJECT-BEING-JUDGED follows afterwards, and perhaps this extraposed arrangement is more easily understood.

Extraposition is also used for gerundive-clauses and noun-clauses that appear in the "heavy subject" position of sentences:

(735) IT IS NICE HEARING FROM YOU AGAIN.

(736) IT WOULDN'T HURT PUTTING IN A NEW PERSON FOR HIS POSITION. . . .

(737) HERE IN AMERICA IT'S NOT SO IMPORTANT THAT WE ARE ALL TOGETHER; IT IS JUST KNOWING THAT WE ALL CARE.

(738) . . . IT'S KIND OF OBVIOUS BOB DIDN'T KNOW TOO MUCH.

(739) IT'S IMPERATIVE THAT DEVON BE REPLACED NOW . . . .

With the JUDGMENTAL VP SEEM, we often find that the factive connective is not THAT, but LIKE or AS THOUGH, as in these student sentences:

(740) IT SEEMS LIKE BOB GOT ELECTED JUST BECAUSE HE WAS POPULAR . . . .

(741) IT SEEMS AS THOUGH ALL THE FIELDS AND MEADOWS . . . ARE BECOMING MORE AND MORE BEAUTIFUL.

With SEEM, there occurs a further extraposition after the usual one of moving the REIFICATION-clause to the terminal position. For example, this sentence, with the noun-clause already extraposed:

(742) IT SEEMS LIKE HE IS NICE

can exchange the pronoun (or NP) in the noun-clause for the "dummy"-pronoun of extraposition to produce this variant sentence:

(742A) HE SEEMS TO BE NICE

in which the noun-clause has become an infinitival-clause after its NP has been exchanged for the extraposition "IT." This seventh grader's sentence illustrates this double extraposition:

(743) THEY SEEMED TO FEEL PRETTY MUCH THE SAME WAY YOU AND YOUR FRIENDS DO

for the initial extraposed sentence:

(743A) IT SEEMS LIKE THEY FEEL PRETTY MUCH THE SAME WAY YOU AND YOUR FRIENDS DO

has had its "dummy"-pronoun (IT) exchanged for the pronoun of the original noun-clause (THEY) and its original noun-clause converted into an infinitival-clause. The conversion of the noun-clauses in both these examples probably stems from the conditionality of the main proposition VP itself: SEEM implies an element of contingency, and contingency implies an element of futurity-orientation, resulting in the appearance of the prepositional infinitive in place of the noun-clause's finite verb-form.

This double extraposition is not limited to the JUDGMENTAL VP SEEM, however; these student sentences illustrate that it can happen with other JUDGMENTAL VP's as well:

(744) ALL OF THEM ARE FUN TO GO TO

has exchanged the pronouns of this sentence:

(744A) IT IS FUN TO GO TO ALL OF THEM

while this student sentence:

(745) BUT I THINK I'M PRETTY LUCKY TO GET A FAMILY LIKE MINE

has exchanged the pronouns of this sentence:

(745A) BUT I THINK IT IS PRETTY LUCKY FOR ME TO GET A FAMILY LIKE MINE.

One difficulty students experienced with extraposition appears in this seventh grader's sentence:

(746) *IT IS ALSO IMPORTANT TO US IN AMERICA ABOUT FAMILY LIFE.

The prepositional phrase ABOUT FAMILY LIFE cannot serve as a REIFICATION-clause reduction that would allow it to undergo extraposition; instead we would have expected either of these:

(746A) FAMILY LIFE IS ALSO IMPORTANT TO US IN AMERICA.

(746B) IT IS ALSO IMPORTANT TO US IN AMERICA TO HAVE A GREAT DEAL OF FAMILY LIFE.

Passivization.--Passivization is a topicalization device for transforming sentences of the basic type $NP_1$-V-$NP_2$ into a variant sentence in which $NP_2$ occupies the formal subject slot originally occupied by $NP_1$. The effect is to shift the focus of the original idea from one OBJECT NP to another OBJECT NP without altering the basic semantic relationships existing between them. The formal mechanism for this shift in NP-focus is this:

(1) $NP_2$ becomes the formal subject NP;

(2) the original V is converted into its participial form and preceded by the appropriate form of the copula BE; and

(3) the preposition BY plus $NP_1$ now follows the V.

For example, this sentence:

(JJ$^1$) $\underset{NP_1}{\underline{\text{SISTER MARIE}}}\ \underset{V}{\underline{\text{TEACHES}}}\ \underset{NP_2}{\underline{\text{US}}}$

can be converted into its passivized form:

(KK$^1$) $\underset{NP_2}{\underline{\text{WE}}}\ \underset{\substack{\text{BE+parti-}\\ \text{cipial } \underline{V}\\ \text{form}}}{\underline{\text{ARE TAUGHT}}}\ \underset{BY\ +\ NP_1}{\underline{\text{BY SISTER MARIE.}}}$

The following pairs of student sentences illustrate the shift in focus brought about by the passive transform of the active sentence:

(747) $\underset{NP_2}{\underline{\text{HE}}}\ \underset{BE\ +\ EN\ -\ V}{\underline{\text{IS RESPECTED}}}\ \text{A LOT}\ \underset{BY\ +\ NP_1}{\underline{\text{BY GROWNUPS}}}.$

(747A) $\underset{NP_1}{\underline{\text{GROWNUPS}}}\ \underset{V}{\underline{\text{RESPECT}}}\ \underset{NP_2}{\underline{\text{HIM}}}\ \text{A LOT.}$

(748) $\underset{NP_2}{\underline{\text{VACATION}}}\ \underset{BE\ +\ EN\ -\ V}{\underline{\text{HAS BEEN ENJOYED}}}\ \underset{BY\ +\ NP_1}{\underline{\text{BY THE WHOLE FAMILY}}}.$

(748A) $\underset{NP_1}{\underline{\text{THE WHOLE FAMILY}}}\ \underset{V}{\underline{\text{HAS ENJOYED}}}\ \underset{NP_2}{\underline{\text{VACATION}}}.$

One of the difficulties experienced by students in their use of passivization has been the use of other prepositions than BY to introduce the original formal subject of the active variant:

(749) *. . . GAMES ARE CONSTANTLY BEING PLAYED AMONG MY BROTHERS AND SISTERS.

(750) *. . . HE'S BEEN PUSHED SO MUCH FROM OTHER SOURCES THAT HE DOESN'T FEEL LIKE DOING IT.

If the active variant of sentence (749) was something like this:

(749A) . . . MY BROTHERS AND SISTERS ARE CONSTANTLY PLAYING GAMES

then the passive variant should have been this:

(749B) . . . GAMES ARE CONSTANTLY BEING PLAYED BY MY BROTHERS AND SISTERS.

Similarly, if the active variant of sentence (750) was something like this:

(750A) OTHER SOURCES HAVE PUSHED HIM SO MUCH THAT HE DOESN'T FEEL LIKE DOING IT then its passive variant should have been this:

(750B) HE'S BEEN PUSHED SO MUCH BY OTHER SOURCES THAT HE DOESN'T FEEL LIKE DOING IT.

The passive transformation mechanism itself has a variation that many students give evidence of: the BY + $NP_1$ is optional, and therefore can be deleted from the passive variant:

(751) ONCE HE WAS ASKED IF NATE THURMOND WAS THE BEST CENTER.

Since there is no BY + $NP_1$ phrase in this sentence, the active variant can be recovered only by assuming that the original $NP_1$ is something like SOMEONE--an indefinite, unspecified person whose identity is either not known to or not revealed by the speaker. Thus the active variant of sentence (751) is something like this:

(751A) SOMEONE ASKED HIM ONCE IF NATE THURMOND WAS THE BEST CENTER.

It is possible that the passive variants of sentences like (751A) are used precisely for that reason: since the original ACTOR (in this case, the ASKER) is indefinite, his identity is not significant to the idea the speaker is relating; therefore, the passive variant, which does not even mention the original indefinite ACTOR, conveys this insignificance even more obviously than the active variant by simply not mentioning him at all. The focus is thus upon the OBJECT-NP whose identity is known by the speaker and considered significant in that idea. In student sentences like these:

(752) THEREFORE, BOB DEVON AND RANDY SLEEPER SHOULD BE IMPEACHED

(753) SINCE HE HAD BEEN GIVEN WARNINGS, HIS WAYS SHOULD HAVE CHANGED

the students have revealed perhaps another motivation for their use of passive variants, rather than active ones: the ACTORS in both sentences are the members of the STUDENT COUNCIL, who have been identified in previous sentences as the responsible persons in charge of Bob Devon's case. Therefore, they do not need to be identified again and featured prominently in the formal subject-position of these sentences.

Passive variants can exist in clauses as well as complete sentences; for example,

(754) AFTER DINNER MY BROTHER AND I PLAY A GAME CALLED PING-PONG

contains a reduced relative clause (CALLED PING-PONG) that derived from this sentence:

(754A) AFTER DINNER MY BROTHER AND I PLAY A GAME THAT IS CALLED PING-PONG.

Infinitival-clauses often contain the simple infinitive in its passive form following the preposition TO, as in these sentences:

(755) STEP "D" IS OUT BECAUSE IT IS LETTING THE MATTER JUST FLY BY . . . TO BE SOLVED BY SOME POOR "OLD SOUL" . . . .

(756) . . . THE SCHOOL BUSINESS WILL CONTINUE TO BE HELD UP . . . .

Gerundive-clauses often contain the gerundive followed by the passive participial verb-form, as in this eleventh grader's sentence:

(757) . . . GETTING A HELPER . . . IS NOT AS EMBARRASSING AS BEING REMOVED FROM OFFICE.

Not all passivization sentences result in the participial verb-form being preceded by some appropriate form of the copula BE. GET is sometimes used by students in place of BE, as these student sentences illustrate:

(758) IF BOB EVER DID GET IMPEACHED, IT WOULD BE BEST FOR EVERYONE . . . .

(759) HE IS A GOOD SPORTSMAN AND GETS PAID VERY WELL.

(760) HE DIDN'T GET PICKED BECAUSE OF THE JOB . . . .

(761) MY MOTHER'S NEW CAR . . . JUST GOT THE WINDSHIELD CRACKED BY THAT LITTLE BRAT TIMMY HOLT . . . .

This last sentence probably illustrates the advantage of the GET-passive over the BE-passive, when there are two NP's in the formal subject position, one in a POSSESSION relationship with the other, which itself is in a POSSESSION relationship with a third NP. The GET-passive of (761) seems considerably more felicitous and less awkward to utter than either of these variants:

(761A) MY MOTHER'S NEW CAR'S WINDSHIELD WAS CRACKED BY THAT LITTLE BRAT TIMMY HOLT.

(761B) THE WINDSHIELD OF MY MOTHER'S NEW CAR WAS CRACKED BY THAT LITTLE BRAT TIMMY HOLT.

Not only is the GET-passive a more useful alternative to the BE-passive in expressing ideas like those in (761), it also preserves an active "feeling." GET in its pure verbal meaning is active, rather than passive--it suggests the ACT of acquiring something. GET in its auxiliary function as an alternate passive form does not lose its ACTION "feeling" entirely, as sentence (761) illustrates: the CRACKING OF A WINDSHIELD is definitely an ACTION, a purely physical ACTION, and the passive form GOT CRACKED preserves more of the feeling of that physical ACTION than does WAS CRACKED. Even in gerundive-clauses, as the following student sentences illustrate, the GET-passive preserves the active force of the physical ACTION of the VP in the gerundive-clause:

(762) BUT THE COACH IS *GETTING ALL THAT REARRANGED*.

(763) THE SCHOOL WILL ALSO PROGRESS BY *BOB'S GETTING THE WORK DONE*.

*Clefting*.--*Clefting* is a topicalization device for focusing upon a phrase in a sentence that does not receive any particular emphasis in its normal position. In general, this special emphasis is achieved by shifting the phrase-to-be-focused-upon and by marking the shifted phrase with a special "pointer" signal. The process of *clefting* itself refers to the process of separating the sentence into two parts (1) the phrase-to-emphasized, and (2) the remainder of the sentence. The phrase is then shifted to a new position and marked with a special "pointer"-phrase. The topicalization cleftings we have investigated are identified by four special "pointer"-phrases: (1) the "IT"-cleft, (2) the "THING"-cleft, (3) the "THERE"-cleft, and (4) the "POSSESSION"-cleft.

*"IT"-clefts*.-- The following sentences illustrate the final form of the "IT"-cleft topicalization device:

(LL$^1$) IT WAS *IN THE MORNING* THAT THE PRISONERS ESCAPED.

(MM$^1$) IT WAS *THEN* THAT HE HEARD THE BURGLAR DOWNSTAIRS.

(NN$^1$) IT WAS *IN THE GARDEN* THAT HE FIRST KISSED HER.

(OO$^1$) IT WAS *THERE* THAT HE LOST HIS WRISTWATCH.

In sentences (LL$^1$) and (MM$^1$) it is the time-phrase that has been emphasized by shifting it to the front of the sentence and marking it with the "pointer"-phrase IT WAS; in sentences (NN$^1$) and (OO$^1$), it is the location-phrase that has been emphasized by the shift to the front of the sentence and the "pointer"-phrase IT WAS. The following sentences illustrate the normal word-order position of these time-phrases and location-phrases:

(PP$^1$) THE PRISONERS ESCAPED IN THE MORNING.

(QQ$^1$) HE HEARD THE BURGLAR DOWNSTAIRS THEN.

(RR$^1$) HE FIRST KISSED HER IN THE GARDEN.

(SS$^1$) HE LOST HIS WRISTWATCH THERE.

As in the other topicalization mechanisms, the basic semantic relationships have been preserved by the cleftings in sentences (LL$^1$)-(OO$^1$), while the emphasis has been shifted from the original NP's in the front position of the sentences to the time- or location-phrases originally appearing in the terminal positions. To heighten the emphasis on the time- and location-phrases in the "IT"-cleft sentences above, the remainder of the sentence has been "demoted" to the subordinate position of a THAT-clause: THAT THE PRISONERS ESCAPED, THAT HE HEARD THE BURGLAR DOWNSTAIRS, THAT HE FIRST KISSED HER, and THAT HE LOST HIS WRISTWATCH. As we have noticed before with THAT as a connective, the clauses that follow it can often appear without the formal THAT connective:

(TT$^1$) IT WAS IN THE MORNING THE PRISONERS ESCAPED.

(UU$^1$) IT WAS THEN HE HEARD THE BURGLAR DOWNSTAIRS.

(VV$^1$) IT WAS IN THE GARDEN HE FIRST KISSED HER.

(WW$^1$) IT WAS THERE HE LOST HIS WRISTWATCH.

Of course the "IT"-cleft can be used to emphasize other phrases than time- and location-phrases, as these sentences illustrate:

(XX$^1$) IT WAS HER SISTER (THAT) I SAW WITH JOHN SMITH.

(YY$^1$) I SAW HER SISTER WITH JOHN SMITH.

(ZZ$^1$) IT WAS TO JOHN BROWN (THAT) I GAVE THE BOOK YESTERDAY.

(AA$^{11}$) I GAVE THE BOOK TO JOHN BROWN YESTERDAY.

(BB$^{11}$) IT WAS HIS MOTHER'S CAR (THAT) HE DEMOLISHED IN THE WRECK.

(CC11) HE DEMOLISHED HIS MOTHER'S CAR IN THE WRECK.

This twelfth grader's sentence illustrates how complex an "IT"-cleft can become when a noun-clause, itself highly complex, becomes the focal point:

(764) IT MAY BE THAT IT'S HIS FIRST YEAR AWAY FROM HOME AND HE HAS MADE A LOT OF NEW FRIENDS, HAD A LOT MORE FREEDOM, AND HAS TAKEN PART IN A LOT OF ACTIVITIES THAT HE WASN'T USED TO BEING INVOLVED IN THAT MADE HIM FORGET HIS PURPOSE IN BEING THERE.

Like THAT-clauses that are restrictive relatives and noun-clauses, the THAT-clauses created by the clefting process can also be reduced to infinitival-clauses if the THAT-clause contains a modal auxiliary reflecting a futurity-orientation of the ACTION of the VP. For example, this seventh grader's sentence:

(765) WHEN IT IS TIME TO EAT WE SOMETIMES CANNOT HAVE THE WHOLE FAMILY TOGETHER

contains an "IT"-clefting that resulted in an infinitival-clause reduction of the THAT-clause in this version:

(765A) WHEN IT IS TIME THAT WE SHOULD EAT, WE SOMETIMES CANNOT HAVE THE WHOLE FAMILY TOGETHER.

It is apparently true that THAT-clauses, regardless of their origin, when they contain modal auxiliaries of futurity-orientation, can be reduced to infinitival-clauses containing the prepositional infinitive, since the TO of the prepositional infinitive reflects the futurity-orientation of the original modal auxiliary in the THAT-clause.

"THE THING"-clefts.--In a sentence like THE DUCHESS HATED STALE BREAD, the semantic relationship between the two OBJECTS (THE DUCHESS, STALE BREAD) is syntactically represented in a straight-forward NP-VP surface sentence pattern in which the OBJECT of the speaker's focus is THE DUCHESS. If the OBJECT of his focus were STALE BREAD, however, the speaker could use a "THING"-cleft which would result in THE THING (THAT) THE DUCHESS HATED WAS STALE BREAD. In student sentences, we find "THING"-clefts in which the OBJECT-being-focused-upon is abstract; for example:

(766) MATURITY IS SOMETHING EVERYONE SHOULD LEARN TO ACCEPT

(767) THE BEST THING I THINK SHOULD BE DONE IS [PLAN] NUMBER ONE

are "THING"-cleft transformations of these straightforward syntactic representations of the same semantic relationships involving abstract OBJECTS:

(766A) EVERYONE SHOULD LEARN TO ACCEPT MATURITY.

(767A) I THINK THAT IT IS BEST THAT PLAN NUMBER ONE SHOULD BE DONE.

Students also topicalize REIFICATION OBJECTS (noun-clauses, gerundive-clauses, infinitival-clauses) as THE THING; for example:

(768) ONE THING I THINK THOSE WHO ARE NOT TEENAGERS SHOULD KNOW IS THAT TEENAGERS ARE TEENAGERS, NOT CHILDREN, NOT ADULTS

(769) WHEN THE TEENAGER TURNS EIGHTEEN THE FIRST THING THAT HE THINKS OF IS TO GET AN I.D. CARD SO HE CAN BUY BEER

are "THING"-cleft transformations of these sentences in which the REIFICATION results in nominalized clauses:

(768A) I THINK THOSE WHO ARE NOT TEENAGERS SHOULD KNOW THAT TEENAGERS ARE TEENAGERS, NOT CHILDREN, NOT ADULTS.

(769A) WHEN THE TEENAGER TURNS EIGHTEEN, HE THINKS FIRST OF GETTING AN I.D. CARD SO HE CAN BUY BEER.

Another form of "THE THING"-cleft is the "WHAT"- or "WHAT IT IS THAT"-cleft:

(770) MAYBE HE THINKS THAT THIS IS WHAT THE HIGH SCHOOL KIDS WANT TO HEAR.

(771) THAT'S WHAT I CALL FUN.

These are "WHAT"-cleft versions of sentences in which the sentential pronoun (THIS, THAT) refers to the contents of the entire sentence or paragraph preceding:

(770A) MAYBE HE THINKS THAT THE HIGH SCHOOL KIDS WANT TO HEAR THIS.

(771A) I CALL THAT FUN.

Still another variation of the "THING"-cleft is the "ALL (THAT)"-cleft in which ACTIONS which are considered to be the sole ACTION to be taken are focused upon:

(772) ALL YOU WOULD DO IS LOSE.

(773) . . . MONEY, MONEY, MONEY IS ALL HE THINKS ABOUT AND ALL THAT HE DOES WITH IT IS BUY CANDY.

These are transforms of these syntactic representations:

(772A) YOU WOULD ONLY LOSE.

(773A) HE THINKS ONLY ABOUT MONEY, MONEY, MONEY AND HE ONLY BUYS CANDY WITH IT.

So far, the "THING"-clefts have involved general OBJECTS; however, we have found some student sentences in which the OBJECT is quite particular:

(774) THE SCHOOL I GO TO IS SMALL.

(775) THE TEAM HE IS ON IS IN THE NATIONAL FOOTBALL LEAGUE.

These are particular "THING"-clefts of these sentences:

(774A) I GO TO A SMALL SCHOOL.

(775A) HE IS ON A TEAM IN THE NATIONAL FOOTBALL LEAGUE.

In addition to these "OBJECT"-clefts in (766)-(775), there are also "PERSON"-clefts, in which the focal point is a human being:

(776) THE PERSON I ADMIRE IS JOE CASH.

(777) STEVE REEVES IS THE PERSON I WOULD LIKE TO BE LIKE.

(778) HE WAS THE KIND OF MAN ANYBODY WOULD LIKE TO BE.

(779) WILT CHAMBERLAIN IS A MAN I ADMIRE.

(780) THESE ARE THE ONES WHOSE KIDS GO OUT AND DO THE WRONG THING.

The non-cleft variants are as follows:

(776A) I ADMIRE JOE CASH.

(777A) I WOULD LIKE TO BE LIKE STEVE REEVES.

(778A) ANYBODY WOULD LIKE TO BE THE KIND OF MAN HE IS.

(779A) I ADMIRE WILT CHAMBERLAIN.

(780A) THEIR KIDS GO OUT AND DO THE WRONG THING.

This last sentence involving the indefinite "PERSON" (THE ONES) illustrates the type of cleft students experienced some difficulty with. For example, this twelfth grader's sentence:

(781) *THIS COLLEGE FRESHMAN IS ONE LIKES TO GET AS MUCH JOY OUT OF LIFE AS POSSIBLE

fails to include the THAT or WHO that marks the "THING"-cleft involving human beings, for the acceptable version of this sentence would have been this one:

(781A) THIS COLLEGE FRESHMAN IS ONE THAT LIKES TO GET AS MUCH JOY OUT OF LIFE AS POSSIBLE.

Another variation of the "THING"-clefts is the "REASON"-cleft, in which the EXPLANATION relationship is being topicalized:

(782) THE REASON WHY I'D LIKE TO BE HIM IS THAT HE IS RESPECTED A LOT BY GROWNUPS.

(783) THIS IS THE REASON I THINK "D" IS THE BETTER CHOICE.

These are "THING"-cleft variants of EXPLANATION restrictive clauses usually syntactically represented by BECAUSE-clauses:

(782A) I'D LIKE TO BE LIKE HIM BECAUSE HE IS RESPECTED A LOT BY GROWNUPS.

(783A) I THINK "D" IS THE BETTER CHOICE BECAUSE OF THIS.

It is the origin of EXPLANATION-clefts in BECAUSE-clauses that accounts for the most frequent student difficulty with "THING"-clefts: the retention of the BECAUSE in the clefted version, even after the EXPLANATION relationship has been given syntactic representation as THE REASON, THE REASON THAT, THE REASON WHY, or WHY:

(784) *THE REASON I WOULD LIKE TO BE LIKE GORDY IS BECAUSE I LOVE THE SPORT OF HOCKEY.

(785) *BUT THE REASON WHY I WOULD LIKE TO BE HIM THE MOST IS BECAUSE I CAN'T CATCH OR THROW A BASEBALL VERY WELL.

(786) *WHY I'D LIKE TO BE HIM IS BECAUSE I WOULD LIKE
TO BE TALL LIKE HIM.

THAT should head the cleft instead of BECAUSE, the BECAUSE evidently being retained from the EXPLANATION restrictive clause of the original relationship expressed syntactically as:

(784A) I WOULD LIKE TO BE LIKE GORDY BECAUSE I LOVE
THE SPORT OF HOCKEY.

(785A) I WOULD LIKE TO BE HIM THE MOST BECAUSE I CAN'T
THROW OR CATCH VERY WELL.

(786A) I'D LIKE TO BE HIM BECAUSE I WOULD LIKE TO BE
TALL LIKE HIM.

Finally, there are "MANNER"-cleft variants of the "THING"-cleft, in which the QUALITY relationship of MANNER OF ACTIONS/EVENTS is being topicalized:

(787) THIS IS HOW FAMILY LIFE IS HERE IN AMERICA.

(788) JEAN CLAUDE EARNED HIS MEDALS LIKE THE TRUE
CHAMPION HE WAS; THAT IS THE WAY I WOULD LIKE
TO WIN SOMETHING.

These are "THING"-clefts of QUALITY OF ACTIONS/EVENTS relationships usually syntactically represented as:

(787A) FAMILY LIFE IN AMERICA IS LIKE THIS.

(788A) I WOULD LIKE TO WIN SOMETHING LIKE HE DOES.

"THERE"-clefts.--There are several varieties of "THERE"-clefts; one of the more common is the "THERE"-cleft that results when the focal point is the LOCATION in which some ACTION or EVENT takes place:

(789) THERE'S A LOT OF NICE FAMILIES HERE.

(790) THERE ARE MANY GIRLS OUR AGE HERE.

(791) THERE ARE CHURCHES AROUND HERE, TOO.

(792) IN AND AROUND COLUMBUS THERE ARE LOTS OF PLACES
TO GO.

These are "THERE"-cleft variants of these straightforward syntactic representations of LOCATION relationships:

(789A) A LOT OF NICE FAMILIES LIVE HERE.

(790A) MANY GIRLS OUR AGE LIVE HERE.

(791A) CHURCHES EXIST HERE TOO.

(792A) YOU CAN GO LOTS OF PLACES IN AND AROUND COLUMBUS.

The more common of these LOCATION "THERE"-clefts involves the subordination of the main ACTION (VP) into a WHERE-clause following the "pointed-out" LOCATION-phrase:

(793) THERE'S A FIELD BEHIND OUR HOUSE WHERE WE PLAY BASEBALL

(794) THERE IS ALSO A TENNIS COURT IN WESTGATE PARK WHERE WE HAVE A LOT OF FUN

(795) THERE IS A DRIVING RANGE WHERE EVERYBODY GOES ON THE WEEKEND

(796) THERE ARE A LOT OF LITTLE STORES WHERE WE GO TO GET COKE AND BUY CANDY

which are "THERE"-clefts of these straightforward syntactic representations:

(793A) WE PLAY BASEBALL IN A FIELD BEHIND OUR HOUSE.

(794A) WE HAVE A LOT OF FUN IN THE TENNIS COURT IN WESTGATE PARK.

(795A) EVERYBODY GOES TO THE DRIVING RANGE ON THE WEEKEND.

(796A) WE CAN GET COKE AND BUY CANDY AT A LOT OF LITTLE STORES.

"THERE"-clefts are sometimes used to topicalize TIME relationships that the focal point of a speaker's utterances; for example:

(797) LATER IN THE YEAR THERE ARE BASKETBALL GAMES

(798) YES, WE LIKE TO WATCH TV BUT THERE ARE CERTAIN TIMES THAT MY DAD TURNS IT OFF

(799) THERE IS NO CERTAIN AGE WHEN MATURITY HITS A PERSON

are "THERE"-clefts of these straightforward syntactic representations of TIME relationships:

(797A) BASKETBALL GAMES OCCUR LATER IN THE YEAR.

(798A) YES, WE LIKE TO WATCH TV, BUT MY DAD TURNS IT OFF AT CERTAIN TIMES.

(799A) MATURITY HITS A PERSON AT NO CERTAIN AGE.

"THERE"-clefts are also used to topicalize OBJECTS that the speaker wants to emphasize more strongly than he is able to do by placing the OBJECT in the formal "subject" position in his utterance; he "points out" these OBJECTS with the "THERE"-cleft. For example:

(800) THERE'S ONE KID ON OUR STREET WHO THINKS HE'S A HARD MAN

(801) THERE ARE ALWAYS THE LEADERS . . . WHO DO ALL THE WORK ON SCHOOL PROJECTS

(802) THERE'RE THE ROBINSONS, A VERY KIND AND GENTLE FAMILY

are the "THERE"-cleft versions of these syntactic representations of the same relationships:

(800A) ONE KID ON OUR STREET THINKS HE'S A HARD MAN.

(801A) THE LEADERS ALWAYS DO ALL THE WORK ON SCHOOL PROJECTS.

(802A) THE ROBINSONS ARE A VERY KIND AND GENTLE FAMILY.

Topicalized OBJECTS caused students difficulties with the "THERE"-cleft. For example, this sixth grader's sentence:

(803) *THERE IS ONLY ONE PERSON SO FAR OF CATCHING BABE RUTH'S ALL-TIME HOME RUN RECORD OF 714 THAT IS WILLIE MAYS

contains a gerundive-clause as the subordinate cleft-created clause, instead of a THAT-clause, in the clefted version of this relationship:

(803A) ONLY ONE PERSON SO FAR CAN CATCH BABE RUTH'S ALL-TIME HOME RUN RECORD OF 714: WILLIE MAYS.

In this seventh grader's sentence:

(804) *. . . RIGHT DOWN THE STREET THERE IS A CITY BUS STOP WHICH WILL TAKE YOU MANY PLACES

the "THERE"-cleft would be a version of this equally erroneous sentence:

(804A) *A CITY BUS STOP DOWN THE STREET WILL TAKE YOU MANY PLACES.

One of the "THERE"-clefts that would present the intended meaning would be this one:

(804B) RIGHT DOWN THE STREET THERE IS A BUS STOP FOR CITY BUSES WHICH WILL TAKE YOU MANY PLACES.

We can see in these clefting transformations that some "dummy"-NP is introduced to occupy the formal "subject"-NP position (IT, WHAT, THE THING, THE PERSON, THE REASON, ALL (THAT), THERE) and that the original VP is embedded now in what seems to be a relative clause. These apparent relatives are not really relatives at all, resulting in fact from clefting processes which place a THAT or WHO before the original VP or next to the NP being topicalized. Not every THAT or WHO following the "THERE IS A NP" is a cleft-signal, however; it is a genuine relative-clause connective in just that sentence in which a restrictive relative clause existed in the utterance before it was clefted. For example; this seventh grader's sentence:

(805) THERE ARE A LOT OF GIRLS YOUR AGE ON THE BLOCK YOUR HOUSE IS ON

contains an asyndetic relative clause (YOUR HOUSE IS ON) that does not result from the clefting process signalled by THERE, for there is no sentence:

(805A) *YOUR HOUSE IS ON THE BLOCK A LOT OF GIRLS YOUR AGE.

Rather, the asyndetic relative is a restrictive relative in some utterance like this:

(805B) A LOT OF GIRLS LIVE ON THE BLOCK YOUR HOUSE IS ON.

Similarly, the asyndetic clause (YOU WISH) in this seventh grader's sentence:

(806) THERE ARE TWO NEARBY SHOPPING CENTERS WHERE YOU CAN FIND ALMOST ANYTHING YOU WISH

results from an OBJECT RESTRICTION relationship, rather than a clefting transformation, in this sentence:

(806A) YOU CAN FIND ALMOST ANYTHING YOU WISH IN THE TWO NEARBY SHOPPING CENTERS.

Likewise, the THAT-clause in this seventh grader's sentence:

(807) THERE ARE OTHER PLACES TO GO THAT I KNOW WILL BE FUN

results from an OBJECT RESTRICTION relationship, not from the clefting transformation of either of these:

(807A) I KNOW OTHER PLACES THAT WILL BE FUN TO GO TO.

(807B) WE CAN GO TO OTHER PLACES THAT I KNOW WILL BE FUN.

There is a variation of "THERE"-clefts that students produce almost as frequently as "THERE IS A NP . . . ." This variation takes the form of a pronoun followed by the appropriate form of HAVE, as this seventh grader's sentence illustrates:

(808) ON OUR STREET WE HAVE A CLUB CALLED "THE BLACK CATS."

This sentence is a cleft-variation of this syntactic representation of the same LOCATION relationship:

(808A) A CLUB ON OUR STREET IS CALLED "THE BLACK CATS"

sometimes represented in a "THERE"-cleft of the form:

(808B) ON OUR STREET THERE IS A CLUB CALLED "THE BLACK CATS."

Other examples of this "HAVE"-form of the "THERE"-cleft in student sentences include:

(809) WE HAVE A CHURCH IN FRONT OF OUR SCHOOL . . . .

(810) WE HAVE SO MANY MORE SIGHTS IN COLUMBUS . . . .

(811) WE CAN GO TO "SKATELAND" ON FRIDAY BECAUSE I THINK THEY HAVE DANCES THERE.

(812) WE HAVE A SHOPPING CENTER NEAR OUR HOUSE AND A POND WHERE WE CAN GO FISHING, AND WOODS WHERE WE CAN EXPLORE AND SLEEP . . . SOME NIGHTS.

(813) WE ALSO MAKE FREQUENT TRIPS TO THE POND DURING THE WINTER, WHERE THEY HAVE A SHELTER HOUSE AND A FIRE ALWAYS THERE TO WARM US UP . . . .

In all of these examples, there is a LOCATION-phrase that seems to mark these "HAVE"-sentences clearly as "THERE"-clefts. In the next examples, there is no explicit LOCATION-phrase, yet they seem to be illustrations of the "HAVE"-form of the "THERE"-cleft:

(814) IT HAS (=THERE ARE, IN OUR NEIGHBORHOOD) NICE BIKE RIDING PATHS, PAVED STREETS, AND PARKS WITH PLAYGROUNDS.

(815) WE HAVE (=THERE ARE, ON OUR HOUSE) FOUR WINDOWS AND ONE SMALL DOORWAY AND A ROOF.

(816) THE KAHIKI IS REAL COOL; THEY HAVE (=THERE IS, AT THE KAHIKI) THIS PLACE WHERE BIRDS AND FISH ARE.

(817) WE HAVE (=THERE ARE, AT OUR SCHOOL) INTRAMURAL AND VARSITY BASEBALL, FOOTBALL AND BASKETBALL.

The "THERE"-cleft of TIME relationships occasionally results in the "HAVE"-form, as these student sentences illustrate:

(818) IN THE SUMMER THE PLAYGROUND HAS (=THERE ARE) ARTS AND CRAFTS, PLAYS, SHOWS, AND ALL SORTS OF THINGS TO KEEP US BUSY.

(819) WE ONLY WATCH TELEVISION WHEN WE HAVE (=THERE IS) NOTHING ELSE TO DO.

Like the LOCATION relationships, TIME relationships can also be clefted without any explicit reference in the sentence to the precise time-point:

(820) WE HAVE (=THERE IS, IN OUR DAILY SCHEDULE) MUCH TIME THAT WE SPEND AT HOME TOGETHER.

(821) OUR SYSTEM IS MUCH BETTER BECAUSE AMERICAN CHILDREN HAVE (=THERE IS, IN AMERICAN CHILDREN'S LIVES) MUCH MORE TIME FOR THE RELAXATION EVERYONE NEEDS.

In addition to the "HAVE"-forms of the "THERE"-cleft, there are also reduced "THERE"-clefts in which the THAT-clause has been converted into an infinitival-clause. This conversion seems to take place when there are THAT-clauses containing modal auxiliaries with futurity-orientation:

(822) WELL, THERE ARE ENDLESS GOOD THINGS I COULD TELL YOU ABOUT OUR NEIGHBORHOOD . . .

(823) THERE ARE MANY THINGS YOU CAN DO AROUND HERE . . .

that become infinitival-clauses with the prepositional infinitive reflecting the futurity-orientation of the original modal auxiliary:

(822A) WELL, THERE ARE ENDLESS GOOD THINGS TO TELL YOU ABOUT OUR NEIGHBORHOOD.

(823A) THERE ARE MANY THINGS TO DO AROUND HERE.

This conversion of the cleft-created THAT-clause into an infinitival-clause occurs with the "HAVE"-form of the "THERE"-clefts also:

(824) WE HAVE (=THERE ARE) A LOT OF THINGS TO DO HERE . . . .

(825) WE HAVE (=THERE IS) TIME TO BE TOGETHER WITH OUR FAMILY AT MEALS, IN THE EVENING AND AT MANY OTHER TIMES OF THE DAY.

(826) THIS IS NOT VERY GOOD FOR THEM BECAUSE THEY HAVE (=THERE IS, FOR THEM) VERY LITTLE TO LOOK FORWARD TO.

(827) HE . . . WOULD HAVE (=THERE WOULD BE, FOR HIM) NO REASON TO FEEL HE HAS BEEN TREATED WRONG . . . .

"POSSESSION"-clefts.--In addition to the "THING"-clefts and the "THERE"-clefts, there is one other clefting process that results in an apparent relative clause: the "POSSESSION"-cleft. "POSSESSION"-clefts result from the topicalization of a POSSESSION relationship; for example:

(828) WE HAVE TWO OTHER TEACHERS, SISTER DOMINIQUE AND MR. ANDERSON

(829) WE HAVE A VERY LOVELY SCHOOL, NICE TEACHERS AND PRINCIPAL

are "POSSESSION"-cleft versions of the straightforward syntactic representation of these POSSESSION relationships:

(828A) OUR TWO OTHER TEACHERS ARE SISTER DOMINIQUE AND MR. ANDERSON.

(829A) OUR SCHOOL IS VERY LOVELY, AND OUR TEACHERS AND PRINCIPAL ARE NICE.

The more common of these "POSSESSION"-clefts involves the subordination of the main ACTION (VP) into a THAT-clause following the "pointed-out" POSSESSION relationship:

(830) ROXANNE HAS A LOT OF FRIENDS THAT SHE WILL PROBABLY INTRODUCE YOU TO.

(831) I HAVE A LOT OF NICE FRIENDS THAT I WOULDN'T WANT TO LEAVE . . . .

(832) HE ALSO HAS A T.V. SHOW WHICH IS ON TUESDAY NIGHTS.

(833) THERE'S JIM, A BOY BY THE NAME YOU HAVE.

(834) THE HIGH SCHOOL HAS A PARKING LOT WHERE WE PRACTICE OUR TENNIS . . . .

The more ordinary syntactic representation of these POSSESSION relationships would omit the cleft-transformations:

(830A) ROXANNE WILL PROBABLY INTRODUCE YOU TO A LOT OF HER FRIENDS.

(831A) I WOULDN'T WANT TO LEAVE A LOT OF MY NICE FRIENDS.

(832A) ALSO, HIS T.V. SHOW IS ON ON TUESDAY NIGHTS.

(833A) THERE'S JIM, A BOY BY YOUR NAME.

(834A) WE PRACTICE OUR TENNIS ON THE HIGH SCHOOL'S PARKING LOT.

There is a variation of "POSSESSION"-clefts that employs appropriate forms of GET, instead of HAVE, in the cleft sentence; for example,

(835) I'VE GOT THIS VERY NEAT CLUBHOUSE

(836) I'VE GOT A SISTER NAMED LINDA . . .

are "POSSESSION"-cleft variants of these straightforward POSSESSION relationships:

(835A) MY CLUBHOUSE IS VERY NEAT.

(836A) MY SISTER'S NAME IS LINDA.

In this last sentence (836), there is a reduced form of the THAT-clause created by the clefting process, since the complete "POSSESSION"-cleft version of this sentence would be:

(836B) I'VE GOT A SISTER THAT IS NAMED LINDA.

Similarly, these student sentences illustrate this kind of reduced THAT-clause:

(837) MY BIG BROTHER DAVE . . . HAS A WIFE NAMED FRANKIE (=THAT IS NAMED FRANKIE).

(838) WE HAVE FAMILY LIFE VERY MUCH LIKE YOURS (=THAT IS VERY MUCH LIKE YOURS).

Another form of the reduced "POSSESSION"-cleft is illustrated in these student sentences:

(839) . . . UNLESS SOMEONE HAS WORK TO DO AND CANNOT COME

(840) WHEN HE HITS A SHORT ONE HE HAS THE SPEED TO GET TO FIRST BASE

in which the infinitival-clause appears to be the reduction of the cleft-created THAT-clause containing a modal auxiliary, as these sentences illustrate:

(839A) . . . UNLESS SOMEONE MUST DO HIS WORK AND CANNOT COME.

(840A) WHEN HE HITS A SHORT ONE, HE CAN GET TO FIRST BASE WITH HIS SPEED.

**We turn now to a descriptive analysis of a selected sample of student writing. The analysis of student writing was done using the grammatical signals for the semantic relationships we have developed in the sections above (Paratactic Relationships, Conjunction and Restriction, and Reification and Topicalization). The sample of student writing was selected from essays** written by project students in response to STEP Essay Test topics given them in the fall of 1967, the fall of 1968 and the spring of 1969. The description of these students and the procedures for analyzing the sentences from their essays are contained in the Data Analysis section to follow.

## Data Analysis

### Instrumentation

In order to secure normative data for the students involved in this project, a battery of standardized tests was administered in the fall of 1967 and a similar battery (with equivalent forms) was administered in the spring of 1969. The standardized tests given at these times included the following:

> STEP (Sequential Tests of Educational Progress) Objective Test of Reading Ability, Levels 2-4, Form A given to all grade-levels in the fall of 1967 and Form B given in the spring of 1969.
>
> STEP Objective Test of Writing Ability, Levels 2-4, Form A given to all grade-levels in the fall of 1967 and Form B in the spring of 1969.
>
> STEP Essay Test, Levels 2-4, Form A given to all grade-levels in the fall of 1967, Form B in the spring of 1968, Form C in the fall of 1968, and Form D in the spring of 1969.*
>
> Iowa Tests of Educational Development, Test No. 7: Ability to Interpret Literary Materials, Form X-4 given to grades 7-12 in the fall of 1967 and Form Y-4 given to grades 7-12 in the spring of 1969.
>
> Watson-Glaser Critical Thinking Appraisal, Form YM given to grades 9-12 in the fall of 1967 and Form ZM given to grades 9-12 in the spring of 1969.

A description of each standardized test follows, including its purpose and developmental or conceptual base, as well as its reliability and validity (if reported).

STEP Objective Test of Reading Ability.--This STEP test measures the student's ability to understand direct statements, to interpret and summarize passages, to see motives of authors, to observe organization of ideas, and to criticize passages with respect to ideas and purposes of presentation. The reading passages, which students were to read silently before responding to seventy objective questions, were selected to represent the major types of material which students are called upon to read in schools and colleges: directions and announcements, articles of information or explanation, articles of opinion or interpretation, letters, stories, poetry and plays (12, p. 7).

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*Since the STEP Essay Tests existed in four equivalent forms and since we desired to secure as many samples of writing from the students as possible, the STEP Essay Test was administered four times to the students: at the beginning and end of each year.

Reliability coefficients were reported on the Level-3 forms only (the level appropriate for seventh to ninth-grade students). The results of split-half reliabilities (on parts, odd and even items, and odd and even clusters of items), alternate-form reliabilities and Kuder-Richardson Formula 21 reliabilities are shown in Table 1 below (13, p. 30). For each coefficient, N = 74.

TABLE 1

RELIABILITY COEFFICIENTS FOR LEVEL-3
FORMS OF STEP READING TEST

| Type of Coefficient | Order of Forms | Form 3A | Form 3B |
|---|---|---|---|
| Split-Half | | | |
| Part I vs. Part II | AB | .87 | .90 |
| | BA | .91 | .92 |
| Odd vs. Even Items | AB | .88 | .91 |
| | BA | .92 | .93 |
| Odd vs. Even Cluster of Items | AB | .90 | .91 |
| | BA | .94 | .94 |
| Kuder-Richardson 21 | AB | .93 | .84 |
| | BA | .89 | .91 |
| Alternate-Form | AB | .86 | |
| | BA | .89 | |

STEP Objective Test of Writing Ability.--This STEP test measures the student's ability to think critically in writing, to organize materials, to judge appropriateness of material for a given purpose, to judge effective writing, and to observe conventional usage in punctuation and grammar. The writing passages, which students were to read silently before responding to seventy objective questions, were selected from actual student writing in letters, newspaper writing, announcements, essays, reports, records, minutes, logs, stories, notes, outlines, directions, and answers to test questions and questionnaires (14, p. 7).

No report of the test's reliability or validity was given for this particular STEP test. However, since all students in the standardization program were examined with the STEP Essay Test as well as the Writing test, correlations were available for the two kinds of scores for the three educational levels involving the students in our project, Table 2 below (15, p. 31).

TABLE 2

CORRELATIONS OF SCORES ON THE STEP OBJECTIVE TEST OF WRITING ABILITY AND SCORES ON THE STEP ESSAY TESTS FOR GRADES 4-12

| Test-Level | Grade-Level | N(umber of Students) | Correlation Coefficient (r) |
|---|---|---|---|
| 2 | 10-12 | 721 | .70 |
| 3 | 7-9 | 391 | .64 |
| 4 | 4-6 | 234 | .61 |

STEP Essay Test.--This STEP test measures the quality of the student's essay in comparison with essays on the same topic written by a large group of students at comparable educational levels and rated by a committee of outstanding English teachers and supervisors. The comparison essays represented not what the committee expected or hoped for as standards, but what exists in practice in many schools. Topics appropriate and meaningful for students at each educational level of the tests were chosen so that sex differences, intellectual differences, and socioeconomic, regional, cultural and religious differences were minimized in order that all students might start from about the same point in responding to each essay-topic. Four topics requiring several types of expository writing--including personal narrative, exposition, argument or persuasion, and analysis of a problem or situation--were selected for each educational level of the test (15, pp. 3-5).

Though no validity measures were reported, two types of reliability measures were reported for the STEP Essay Tests: inter-judge reliabilities and score-reliabilities. Since all essays on each topic were read twice by the same group of judges, classroom teachers at the educational level of the students whose essays they were to read, it was possible to assess the measure of agreement among the judges' scores. Inter-judge correlations measuring the consistency with which the judges ranked the students are presented below in Table 3 (15, p. 29) for each form at the educational levels of the students in the project.

TABLE 3

INTER-JUDGE RELIABILITY COEFFICIENTS FOR
LEVELS 2-4 OF STEP ESSAY TEST

| Form | Grade-Level | N(umber of Judges) | Reliability Coefficient | Standard Error of Measurement |
|---|---|---|---|---|
| 2A | 10-12 | 376 | .68 | .80 |
| 2B | 10-12 | 363 | .63 | .83 |
| 2C | 10-12 | 377 | .70 | .81 |
| 2D | 10-12 | 358 | .70 | .74 |
| 3A | 7-9 | 399 | .74 | .62 |
| 3B | 7-9 | 391 | .69 | .70 |
| 3C | 7-9 | 409 | .77 | .56 |
| 3D | 7-9 | 398 | .76 | .60 |
| 4A | 4-6 | 256 | .70 | .72 |
| 4B | 4-6 | 247 | .71 | .73 |
| 4C | 4-6 | 234 | .63 | .77 |
| 4D | 4-6 | 239 | .73 | .66 |

In addition, at each educational level, there was at least one pair of final forms that were administered to the same students in the standardization program. Therefore, estimates of score-reliability, presented in Table 4 below (15, p. 30), were computed by correlating the scores for two forms administered to the same students.

Iowa Tests of Educational Development, Test No. 7: Ability to Interpret Literary Materials.--This test is one of eight in the battery of Iowa Tests of Educational Development whose general purpose is to measure the student's ability to do critical thinking in each of the eight areas designated in the titles of the test-battery. Critical thinking is defined by the test-makers as the ability to use what has been learned in acquiring,

TABLE 4

SCORE-RELIABILITIES FOR LEVELS 2-4 OF STEP ESSAY TEST

| Form | Grade-Level | Reliability Coefficient | Standard Error of Measurement |
|---|---|---|---|
| 2 | 10-12 | .62 | .87 |
| 3 | 7-9 | .62 | .79 |
| 4 | 4-6 | .54 | .87 |

interpreting and evaluating new ideas; in relating new ideas to old; and in applying broad concepts and generalizations to new situations or to the solution of new problems (16, p. 6). The particular test of the battery administered to the seventh-twelfth-grade students in the project was Test #7, designed to measure the student's ability to interpret literary materials. This test contains a variety of selections from world literature, including both prose and poetry, representing major types of writing--humorous, dramatic, philosophical, satirical--and covering a fairly wide range in style. These selections, which students were to read silently before responding to eighty objective questions, attempt to assess most of the measurable understandings that high-school students might be expected to derive from the reading of literary materials. The following list suggests the most important of the skills in reading comprehension that are covered in this test:

A. Ability to comprehend and interpret the content of the selection.

   1. To restate ideas in new words; to interpret words, phrases, and sentences presented in metaphors, figures of speech, satirical thought, etc.

   2. To recognize simple relationships, draw inferences, and grasp the main thought of the selection.

   3. To understand the significance of specific words or phrases in the light of the literary context in which they are found.

B. Ability to analyze and appreciate the elements of literary works.

1. To understand the relationships among ideas and the function of individual ideas in relation to the total context in which they are found.

2. To grasp the structure of the selection and appreciate characterization.

3. To evaluate the author's purpose, point of view, and attitudes.

4. To become aware of the style and literary techniques used in the development of specific passages and appreciate their mood, tone, and emotion. (16, pp. 27-28)

The average reliability reported for the Iowa battery was .91, and the standard error of measurement averaged 1.71 for Tests 1-8. The test-makers reported that the validity of the tests could not be summarized through a numerical index, since no criterion of general educational development has been identified against which the test scores might be correlated (16, p. 63).

Watson-Glaser Critical Thinking Appraisal.--This test consists of a series of subtests which require that the student apply some of the important abilities involved in critical thinking. The exercises in the subtests include problems, statements, arguments, and interpretations of information similar to those which a person might encounter in his daily life as he works, reads newspaper or magazine articles, hears speeches, participates in discussions on various issues (17, p. 2). In developing this test, the authors have defined critical thinking as a composite of (1) attitudes of inquiry that involve the ability to recognize the existence of problems and the general need for evidence to support what is asserted to be true; (2) knowledge of the nature of valid inferences, abstractions, and generalizations; and (3) skills in employing and applying the above attitudes and knowledge. This test attempts to provide an estimate of a student's standing in this composite of abilities by means of five power subtests designed to tap the following aspects of the composite (17, p. 10):

1. An inference subtest (20 items) which samples the ability to discriminate among degrees of truth or falsity of inferences drawn from given data;

2. A recognition-of-assumptions subtest (16 items) which samples the ability to recognize unstated assumptions which are taken for granted in statements or assertions;

3. A deduction subtest (25 items) which samples the ability to reason deductively from given statements or premises;

4. An interpretation subtest (24 items) which samples the ability to weigh evidence and distinguish between (a) generalizations that are not warranted beyond a reasonable doubt, and (b) generalizations which, though not absolutely certain or necessary, do seem warranted beyond a reasonable doubt;

5. An evaluation-of-arguments subtest (15 items) which samples the ability to distinguish between arguments which are strong and relevant to a particular question at issue from those which are weak and irrelevant. (17, p. 2)

Reliability data, consisting of odd-even split-half reliability coefficients corrected by the Spearman-Brown formula, are presented for both forms of this test in Table 5 below (17, p. 13).

TABLE 5

RELIABILITY COEFFICIENTS FOR WATSON-GLASER CRITICAL THINKING APPRAISAL FOR GRADES 9-12, FORMS YM AND ZM

| Form | Grade-Level | N(umber of Students) | Reliability Coefficient | Standard Error of Measurement |
|---|---|---|---|---|
| YM | 9 | 3,037 | .85 | 4.2 |
| ZM | 9 | 3,033 | .77 | 4.5 |
| YM | 10 | 2,947 | .86 | 4.0 |
| ZM | 10 | 2,995 | .79 | 4.5 |
| YM | 11 | 2,406 | .86 | 4.0 |
| ZM | 11 | 2,316 | .81 | 4.5 |
| YM | 12 | 1,800 | .87 | 3.9 |
| ZM | 12 | 1,778 | .83 | 4.4 |

Split-half reliability coefficients (corrected by the Spearman-Brown formula) were available for the individual subtests for the tenth-grade normative groups only, and are presented in Table 6 below (17, p. 14).

### TABLE 6

### RELIABILITY COEFFICIENTS FOR SUBTESTS OF WATSON-GLASER CRITICAL THINKING APPRAISAL FOR GRADE 10, FORMS YM AND ZM

| Subtest | Form YM, $r_{11}$ N = 2947 | Form ZM, $r_{11}$ N = 2995 |
|---|---|---|
| Inference | .61 | .55 |
| Recognition of Assumptions | .74 | .54 |
| Deduction | .53 | .41 |
| Interpretation | .67 | .52 |
| Evaluation of Arguments | .62 | .40 |

Although no content validity data could be reported for the *Watson-Glaser Critical Thinking Appraisal*, since no adequate criterion-measurement of critical thinking exists, several kinds of construct validity data were reported by the test-makers. Correlation coefficients between raw scores on the *Critical Thinking Appraisal* and such verbal intelligence measures as the *Otis Mental Ability Tests*, the *California Test of Mental Maturity*, the *Quick-Word Tests*, the *Miller Analogy Test*, and the *Wechsler Adult Intelligence Scale* ranged from .55 to .75 with a median of .68. Correlation coefficients of the *Critical Thinking Appraisal* with such measures of reading ability as the *Nelson-Denny Reading Test*, the *Stanford Advanced Reading Test*, the *Gates Reading Survey*, the *Iowa Test of Educational Development on the Ability to Interpret Literary Materials*, and the *STEP Reading Test* ranged from .60 to .66 with a median of .64. The correlations reported for the *Iowa Literary Materials Interpretation* test and the *STEP Reading Test*, which were administered to the project students and described above, were each .66 (17, p. 11).

Another measure of construct validity was provided from the inter-correlations of the subtests of the *Critical Thinking Appraisal* with each other and the test as a whole. The somewhat low subtest inter-correlation coefficients, ranging from .21 to .50 for the tenth-grade normative group, indicated to the test-makers that "relatively distinctive abilities [were] being measured with sufficient overlap to warrant their inclusion in one total score" (17, p. 14). The correlation coefficients ranging between .56 and .79 between the various subtests and the entire test gave evidence to the test-makers of "the substantial relationship of the various subtests to the Appraisal as a whole" (17, p. 15).

Further use of STEP Essay Tests.--During the summer following the administration of the STEP Essay Tests, Forms A and B, to all grade-levels, a further use of the students' essays was developed. A close examination of the sentences from the fall 1967 essays of the sixth-grade class started the development of the semantic-syntactic relationships described in the earlier sections above. The development of these relationships continued throughout the examination of the sentences from students at other grade-levels until, by mid-winter of the second year, most of the major subcategories of the final list of semantic-syntactic relationships were completed. (Check Appendix for the complete list of these relationships and example sentences illustrating each one.)

From this list of semantic-syntactic relationships, a code was developed so that each semantic-syntactic relationship that appeared in a student's sentence could be easily identified. Conjunctive relationships were identified by the code number 1; restrictive relationships by the code number 2; nominalization relationships by the code number 3; topicalizations by the code number 4; redundancies (later dropped from the list) by the code number 5; and surface errors by the code number 6. Each of the subcategories within each of the major semantic-syntactic relationships was identified by a code number (from 1 to n, the n depending upon the number of subcategories within the major category), and the several relationships which had both hypotactic and paratactic forms were identified by a further code number (1 = hypotactic form; 2 = coordinative form). For example, a semantic-syntactic relationship identified by the code number 2.6.1 would be decoded, reading from left to right, as a restrictive relationship (2), the sixth one of the restrictive subcategories (6), and the hypotactic form of that subcategory (1). From the code list, this relationship can be identified as the hypotactic form of the restrictive relationship REAL EVENT-CONSEQUENCE. Similarly, code number 1.2.2 would be decoded as a conjunctive relationship (1), the second one of the conjunctive subcategories (2) and the coordinative form of that subcategory (2). From the code list, this relationship can be identified as the coordinative form of the conjunctive relationship OBJECT DESCRIPTION/EXPLICATION. The code development went through many revisions as the sentences from the fall 1967 essays were examined throughout the summer and fall of 1968. The final set of coding numbers to be used in analyzing the sentences from the remaining sets of the STEP Essay Tests was established by early

1969, and the sentences from the fall 1967 essays were examined again to make sure that all these sentences carried the finally-established code numbers.

The method of coding the relationships within each student's sentence can be described as follows: each sentence from each fall 1967 essay had been typed onto a 3 X 5 card that carried the student's name and the date of the Essay test. Each project staff member doing the coding had a list of the semantic-syntactic relationships and their code numbers (similar to the one in the Appendix), and as syntactic evidence for a particular semantic relationship appeared, the code number for that relationship was marked on the card. If, in the opinion of the coder, the syntactic form given by the student in his sentence in some way departed from the appropriate syntactic form this relationship takes, he marked the code number with an asterisk. Thus, any asterisked code-number identified the particular semantic-syntactic relationship as having been inappropriately expressed by the student-writer and any code number without an asterisk identified an appropriately expressed relationship. After a coder finished a set of student sentences (usually those from one class), another coder reviewed his analysis of those sentences, and differences of opinion on whether a particular relationship was correctly expressed (or whether a particular relationship had been correctly identified by the original coder) were generally settled by mutual discussion. Where the original coder and the reviewer could not resolve their differences, other members of the staff were asked to resolve the issue. On occasion, the entire project coding staff was involved in making the final decision as to how a particular kind of semantic-syntactic relationship should be coded. These differences of opinion occurred more often early in the coding process, and most of them occurred during the final re-examination of the fall 1967 essay sentences. By the time the sentences from the fall 1968 and spring 1969 essays were coded, the coding staff had become fairly proficient at identifying the semantic-syntactic relationships present in the students' sentences and in labeling them as appropriately or inappropriately done. The coding staff included the author, Thomas G. Shroyer, L. Jane Stewart, Elizabeth Stockover, Frank J. Zidonis, and Donald R. Bateman; during the summer of 1969, one of the teachers, Sister Ann Mary, was employed to help in the coding of the spring 1969 essay sentences. The coding of the fall 1967 essay sentences was completed by March 1969, the coding of the fall 1968 essay sentences by June 1969, and the coding of the spring 1969 essay sentences by September 1969.

After each set of student sentences from one class had been coded and checked by the project staff members, frequency counts of the total number of each semantic-syntactic relationship and the total number of each major syntactic operation (hypotaxis, coordination, nominalization, topicalization, parataxis, surface error), both correctly done and incorrectly done, were completed for each class. These totals were then transferred to appropriate IBM cards for the computer-program prepared by the project's research statistician, Bruce Gansneder. This computer-programming went through several revisions before the final one was selected; by December 1969 this program had yielded the proportional data analyzed and interpreted in the Methodology section below.

As an illustration of how student sentences were analyzed and coded using the coding system devised by the project staff, we have reproduced below one seventh grader's essay with the semantic-syntactic relationships identified by code number for each sentence. Beneath the reproduction of the student's essay, the reader will find the code numbers of each sentence in it decoded and identified. On the actual essay, these code numbers are listed in the left-hand margin of the student's paper, not above the place in the sentence where the syntactic expression of the semantic relationship occurs as we have done here for the reader's ease in matching the semantic relationship with its syntactic form in the student's sentence.

3.1 2.5R
1. I heard that you were very unhappy about moving here.

3.3 *6.8 *6.8
2. Let me tell you something / it is a lot of fun /

*1.1 *6.3
our neighborhood is so very nice. 3. And just think /

3.3 *6.8
we will only be a few houses away from each other /

that will be a lot of fun. 4. Every year our block goes

1.4 *6.3 *1.2.1
on a picnic and then swimming afterwards / which is fun.

*1.1 1.2.1
5. And by us is a pond that freezes over in the winter

1.2.2 *6.8 *6.3 *1.1
and you can go iceskating on it / its a blast and

4.2.3 *1.1
we have a pizza parlor around us and very nice kids our

4.2.3R
age to goof around with us. 6. You can stay all night

*1.1 1.1
all the time and in the summer you and I can get a pool

*6.8 *1.1
ticket / the pool is very nice, and the school is very

1.1 *1.1
big and nice and we do a lot of neat things. 7. I hope

3.1 4.2.1 2.3
it is very soon that you move because I am getting very

0
anxious. 8. Write later.

Code identification for each sentence:

| | | |
|---|---|---|
| 1. | 3.1 | Factive Noun-Clause Nominalization |
| | 2.5R | Reduction of Causation Clause Restriction |
| 2. | 3.3 | Modal Noun-Clause Nominalization |
| | *6.8 | Run-On Sentence Surface Error |
| 3. | *1.1 | Inappropriate Category Expansion Conjunction |
| | 3.3 | Simple Infinitive Nominalization |
| | *6.3 | Punctuation Surface Error |
| | *6.8 | Run-On Sentence Surface Error |
| 4. | 1.4 | Temporal Sequence Conjunction |
| | *1.2.1 | Inappropriate Hypotactic Object Description Conjunction |
| | *6.3 | Punctuation Surface Error |
| 5. | *1.1 | Inappropriate Category Expansion Conjunction |
| | 1.2.1 | Hypotactic Object Description Conjunction |
| | 1.2.2 | Coordinative Object Description Conjunction |
| | *6.8 | Run-On Sentence Surface Error |
| | *6.3 | Punctuation Surface Error |
| | 4.2.3 | Location and Time Clefting Topicalization |
| | 4.2.3R | Reduction of Location and Time Clefting Topicalization |
| 6. | *1.1 | Inappropriate Category Expansion Conjunction |
| | 1.1 | Category Expansion Conjunction |
| | *6.8 | Run-On Sentence Surface Error |

7. 3.1 Factive Noun-Clause Nominalization
4.2.1 "It"-Clefting Topicalization
2.3 Explanation Clause Restriction

8. 0 Parataxis*

The reader should consult the appropriate section of the theoretical description (the earlier sections above) of any semantic relationship whose coding of the syntactic expression in the student's essay above is not clear to him.

## Methodology

Thirteen teachers in nine schools of the Columbus Diocesan Schools participated in this project; grade-levels from the fourth grade to the twelfth were represented in the sample. These teachers were selected by the Diocesan school system from a group of 80 or more teachers who had attended seminars conducted by Sister Mary Immaculate at St. Mary of the Springs College (now Ohio Dominican College) in the summer of 1965. From these 80 some teachers, thirteen were chosen to participate in the English Curriculum Improvement Project, and the intact classes assigned to these teachers comprised the students who were to participate in the project. As described in the Introduction section above, the first year of the project, 1966-67, was a pilot year in which students and teachers experimented with the type of transformational grammar available at the time, and no formal testing program was conducted during this pilot year. The final two years of the project were curriculum development years, and at the beginning of the 1967-68 school year, students in the following classes were administered the battery of standardized tests described in the Instrumentation section above:

1. at Christ the King Elementary School, Sister Mary Norbert, 45 fifth-grade students, and Barbara Gorsky, 40 sixth-grade students;

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*The reader should be aware that any sentence in which there was no syntactic evidence of either conjunction or restriction would carry the code number 0 for PARATAXIS. Not only sentences like No. 8 above, in which there is no other semantic relationship at all, would carry the PARATAXIS code number 0, but sentences in which only NOMINALIZATION, TOPICALIZATION, or SURFACE ERROR (other than RUN-ON SENTENCE or FRAGMENT) occurred would also carry the PARATACTIC code number 0. For example, a sentence carrying the code numbers 3.1 and *6.3 would also carry the code number 0, for neither conjunction (1.1 - 1.6) or restriction (2.1 - 2.13) occurred in the sentence.

2. at St. James the Less Elementary School, Sister Mildred, 41 seventh-grade students;

3. at St. Philip the Apostle Elementary School, Sister Paul Marie, 42 seventh-grade students;

4. at St. Timothy Elementary School, Patrick Mooney, 26 fourth-grade students, and Mary Virginia VanCamp, 28 seventh-grade students;

5. at St. Mary Magdalene Elementary School, Robin Babka, 27 seventh-grade students, and Barbara Wallace Van Horn, 28 seventh-grade students;

6. at St. Aloysius Elementary School, Sister Ann Mary, 41 seventh-grade students;

7. at St. Joseph Academy, Sister Seraphine, two classes of ninth-grade students, 30 and 32 students, respectively;

8. at St. Francis de Sales High School, Sister Sean, 33 ninth-grade students; and

9. at Bishop Fenwick High School, Lancaster, Ohio, Sister Kristen, two classes of eleventh-grade students, 27 students each. With the exception of this last school, all the schools were located in Columbus, Ohio.

At the beginning of the third year of the project, the second year of the curriculum development phase (1968-69), several of the teachers were assigned new classes and one teacher left the Diocesan schools; therefore, the fourth-grade students at St. Timothy Elementary School, the sixth-grade students at Christ the King Elementary School, and the ninth-grade students at St. Joseph Academy and St. Francis de Sales High School were no longer contained in the sample. In addition, the newly assigned classes of the fourth- and ninth-grade teachers were added to the sample, as was a demonstration tenth-grade class at Bishop Ready High School taught by Elizabeth Stockover, the field coordinator for the project. These new students were administered the appropriate Essay tests in the fall of 1968 and the spring of 1969, and in addition, the second forms of the STEP Reading and Writing tests and the Iowa and Watson-Glaser tests. However, lack of time during the spring and summer of 1969 in which to code all student sentences from all the essays forced us to eliminate the sentences of most of the newly-assigned groups from those being coded. Further, the two teachers at St. Mary Magdalene were permitted to re-group their students according to their readiness to expand their study of case-grammar relationships into a study of syntactic-semantic relationships and their applications. After the loss of students due to natural attrition and those due to re-assignment of teachers, after the re-grouping of students at St. Mary Magdalene, and after the addition of those new students from the fourth grade at St. Timothy School (the only new students whose sentences were coded and analyzed), the number and distribution of students at each grade-level whose sentences were coded and analyzed were as follows:

TABLE 7

DISTRIBUTION OF STUDENTS WHOSE ESSAY SENTENCES WERE CODED AND ANALYZED BY GRADE-LEVEL BY TEACHER

| Class Number | Teacher | Grade-Level | Number of Students | Number of School Years |
|---|---|---|---|---|
| 1 | Sr. Norbert | 5 | 42 | 2 |
| 2 | Sr. Mildred | 7 | 32 | 2 |
| 3 | Sr. Paul Marie | 7 | 34 | 2 |
| 4 | Mrs. VanCamp | 7 | 21 | 2 |
| 5 | Mrs. Babka | 7 | 26 | 2[a] |
| 6 | Mrs. Van Horn | 7 | 26 | 2[b] |
| 7 | Sr. Ann Mary | 7 | 40 | 2 |
| 8 | Sr. Kristen | 11 | 49 | 2 |
| 9 | Mr. Mooney | 4 | 27 | 1 |

[a] Rearranged second year to contain those students who continued study of case-grammar.

[b] Rearranged second year to contain those students who studied syntactic-semantic relationships.

## TABLE 8

### PROFILE OF INDIVIDUAL CLASSES ON STEP READING, WRITING AND ESSAY TESTS AND IOWA TEST OF ABILITY TO INTERPRET LITERARY MATERIALS

| Grade-Level | Teacher | STEP Reading | | STEP Writing | | STEP Essay | | Iowa Literary Interpretation | |
|---|---|---|---|---|---|---|---|---|---|
| | | $T_1$ | $T_3$ | $T_1$ | $T_3$ | $T_1$ | $T_3$ | $T_1$ | $T_3$ |
| 4 | Mooney | ------ | 0-10% | ------ | 29-63% | 6-74% | 30-83% | --- | --- |
| 5/6 | Norbert | 70-87% | 95-99% | 72-90% | 81-93% | 25-94% | 25-93% | --- | --- |
| 7/8 | Mildred | 61-78% | 63-80% | 66-83% | ------ | 11-87% | 19-89% | 55% | --- |
| 7/8 | Paul Marie | 67-85% | 70-86% | 72-87% | 60-79% | 11-87% | 19-89% | 61% | 77% |
| 7/8 | VanCamp | 67-85% | 70-86% | 72-87% | 72-91% | 11-87% | 19-89% | 73% | 67% |
| 7/8 | Babka | 49-68%[a] | 37-63%[a] | 44-67%[a] | 47-69%[a] | 11-87%[a] | 19-89%[a] | 42%[a] | 49%[a] |
| 7/8 | Van Horn | 80-94%[b] | 88-98%[b] | 80-91%[b] | 79-93%[b] | 11-87%[b] | 19-89%[b] | 73%[b] | 85%[b] |
| 7/8 | Ann Mary | 54-76% | 65-82% | 55-75% | 51-74% | 11-87% | 19-89% | 42% | 49% |
| 7/8 | All Classes | 63-80% | 65-82% | 66-83% | 69-87% | 11-87% | 19-89% | 55% | 67% |
| 11/12 | Kristen | 69-89% | 30-48% | 72-87% | 25-53% | 38-81% | 3-75% | 81% | 47% |
| [a]Re-grouped Class | | 49-68% | 45-70% | 47-70% | 47-69% | 17-87% | 19-89% | 42% | 49% |
| [b]Re-grouped Class | | 85-96% | 85-96% | 75-90% | 79-93% | 17-87% | 19-89% | 73% | 89% |

In comparing the percentile-band scores for the STEP tests in Table 8 above, we follow these two interpretational rules recommended by the test-makers:

> 1. If the percentile bands overlap, it is impossible to say with assurance that one . . . standing is higher than the other . . . standing.
>
> 2. If the percentile bands do not overlap, one can say with considerable assurance that standing represented by the higher band is better than standing represented by the lower band. (14, p. 16)

These interpretations apply whether we are comparing one student's score with another's on the same test, or a student's standing on one STEP test with his standing on another STEP test. The percentile-band scores themselves were taken from the test-makers' published norms group tables in the appropriate STEP test manual (13, 14, 15). These norms were based on a large sample of students, so that in

> . . . referring to the publisher's norms, STEP users will generally be comparing students' scores with those of a sample of students of the same educational level in the nation. (14, p. 11)

We will use the percentile-band scores for the STEP tests only as normative data for the grade-level groups in the sample. For example, the fifth/sixth-grade students* were in the top quartile of all fifth/sixth-grade students used as norms groups on both the STEP Reading test (70-87%) and the STEP Writing test (72-90%) at the beginning of the curriculum development period ($T_1$). The eleventh/twelfth graders were also in the top quartile on both the STEP Reading test (69-89%) and the STEP Writing test (72-87%) at the beginning of the curriculum development period. The seventh/eighth graders were in the second quartile on both these tests (Reading, 63-80%; Writing, 66-83%) at the beginning of the curriculum development period, though one individual class (the one taught by Barbara Van Horn) was in the upper quartile on both tests (Reading, 80-94%; Writing, 80-91%).

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*When we refer to a grade-level group as fifth/sixth grade, we do not mean a mixed group of fifth- and sixth-grade students. What we are referring to is the group of students who were fifth graders at the beginning of the two-year curriculum development period and sixth graders at the end. This notation will also be used for the group who began as seventh graders and ended as eighth graders (seventh/eighth graders) and the group who began as eleventh graders and ended as twelfth graders (eleventh/twelfth graders).

When these same groups were re-tested on equivalent forms of the STEP Reading and Writing tests at the end of the curriculum development period ($T_3$), two years later, we find that the seventh/eighth graders were still in the second quartile on both tests (Reading, 65-82%; Writing, 69-87%). Since the percentile bands overlap on the $T_1$ and $T_3$ scores for both tests, we cannot say that the seventh/eighth graders did any better on either test at either time-point; and since the percentile bands overlap on the Reading scores and the Writing scores at both time-points, we cannot say that the seventh/eighth graders did any better on one test than they did on the other at either time-point. We do note, though, that the one class which was in the upper quartile on both tests at the beginning was still in the upper quartile at the end (Reading, 88-98%; Writing, 79-93%). We find that the fifth/sixth graders also were still in the same quartile on both tests at the end of the curriculum development period as they were at the beginning (Reading, 95-99%; Writing, 81-93%), though we note that the percentile-band scores no longer overlap on the Reading scores, indicating that the fifth/sixth graders were better at $T_3$ than they were at $T_1$. We find that the eleventh/twelfth graders, however, had dropped from the upper quartile on both tests at $T_1$ to the third quartile on both tests at $T_3$ (Reading, 30-48%; Writing, 25-53%). This performance is extremely unusual; it is highly unlikely that these students had retrogressed in their reading and writing abilities over the two years so much that they could drop two quartiles in their scores. When the teacher interviewed several of the seniors in her classes, she discovered that from their perspective, there was no motivation for them to perform well at all, for these tests were given during the final week of their senior year for a project that had no bearing on whether they would graduate or not. Since these students recorded poorer scores on all but one* of the tests administered during the final week of their senior year (STEP Reading, STEP Writing, STEP Essay, and Iowa Literary Appreciation), we assume that the lack of any incentive to perform well at the very end of their high school career accounts for the extremely poor scores on all these tests.

When the percentile scores obtained on the Iowa Literary Interpretation test were compared for the seventh/eighth grades and the eleventh/twelfth grades, we find that the same pattern apparent on the STEP Reading and Writing scores was true of the Iowa test as well. The seventh/eighth graders scored in the second quartile at the beginning and at the end of the curriculum development period (55% at $T_1$; 67% at $T_3$),* while the eleventh/twelfth graders scored in the upper quartile at $T_1$ (81%) but dropped to the second quartile at $T_3$ (47%). We also noted that the same seventh/eighth-grade class that scored in the upper quartile on the STEP tests also scored in the upper quartile on both administrations of the Iowa test (73% at $T_1$; 85% at $T_3$).

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*Their performance on both administrations of the Watson-Glaser Critical Thinking Test indicates that there was no significant difference between $T_1$ acores and $T_3$ scores, as their percentile scores of 50% at $T_1$ and 58% at $T_3$ were average scores for each form of the Critical Thinking test.

Interpretation of percentile-band scores on the STEP Essay Tests is potentially more difficult since there are only seven possible ratings to be given each student's essay; therefore, percentile-bands themselves include a wide range of scores, as can be seen from Table 8 above (e.g., 6 74%, 25-94%, 11-87%, 19-89%, etc.). A student's score would have to have shifted two rating levels (i.e., from 1 to 3, from 2 to 4, from 3 to 5, from 4 to 6, etc.) before percentile-bands would fail to overlap. A quick inspection of the STEP Essay column of Table 8 reveals that this did not happen for any grade-level group in our sample, nor for any individual seventh/eighth-grade class in the sample, whether one compares class scores across time-points or within time-points. Thus, all grade-level groups and individual classes scored in the middle quartiles, although the upper limits for the fifth/sixth graders and seventh/eighth graders ranged well into the upper quartile.

In summarizing the normative data from these four standardized tests, it would appear that our fifth/sixth graders were in the upper quartile for their grade-level, as were the eleventh/twelfth graders at the beginning of the curriculum development period, and that our seventh/eighth graders were in the second quartile, while the eleventh/twelfth graders at the end of the curriculum development period were in the third quartile (although we suspect this was due to extreme lack of incentive to perform well during the final week of their senior year). Thus, the fifth/sixth graders appear to have been an above-average group, as were the eleventh/twelfth graders, while the seventh/eighth graders were a slightly above-average group, if the battery of standardized tests administered are used as the normative bases for these conclusions.

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*Since normal growth averages about 8% per year, the increase of 12% represents normal growth for the seventh/eighth-grade group over the two-year development period. All individual seventh/eighth-grade classes but one also showed normal growth over the two-year period, and that one maintained its position (as only a "loss" of more than 4% per year would have been significant).

## Descriptive analysis

The coding system described above yielded frequency data for each essay written by each student, as well as frequency data for each class and for each grade-level for each essay administration. Since the topics on the STEP Essay Tests were different at each successive time-point, frequency data both for individual students and for individual classes were not meaningful: number and kind of semantic-syntactic relationships varied from topic to topic, as did the number of sentences written, to the extent that mean frequency scores *per se* made detection of patterns from grade-level to grade-level and from time-point to time-point impossible. Therefore, the decision was made to transform the frequency data into proportional data so that detection of patterns and trends, and variations in them (or lack of them), would be possible. Proportional data require, of course, the selection of appropriate bases upon which frequency proportions may be computed. Two such bases were selected for the development of proportional data from the frequency counts of hypotactic, coordination, nominalization, paratactic, and topicalization operations in student sentences, both individual operations and total operations, both appropriately-formed and inappropriately-formed. For example, it was logical to consider what proportion hypotactic operations were of the total operations a student (and a class) performed on each of the essays written; for then it became possible to see whether this proportion varied from time-point to time-point, from grade-level to grade-level. In addition, since the number of sentences within which these operations were carried out was independent of both the number and kind of syntactic operations performed, it was also logical to consider what proportion of the total number of sentences a student (and a class) wrote on each of the essays contained, say, hypotactic operations. Again, variations from time-point to time-point and from grade-level to grade-level became possible to detect. Once these two bases (total operations and total sentences) were decided upon, it was easy to extend their use to the computation of three other sets of proportional data: those concerned with inappropriately-formed syntactic operations; for example, (1) the proportion of total hypotactic operations that were inappropriately formed; (2) the proportion of total syntactic operations that were inappropriately-formed hypotactic operations; and (3) the proportion of the total number of sentences that contained inappropriately-formed hypotactic operations. Furthermore, proportional data could be computed for the other major syntactic operations of coordination, nominalization, parataxis, and topicalization.

The descriptive analysis to follow will refer, then, to five sets of proportional data comparing the frequencies of all the major syntactic operations to the total number of syntactic operations performed in an essay and the total number of sentences written in an essay. These five sets included the following:

1. the proportion of the frequency of each specific kind of syntactic operation to the total number of syntactic operations performed;

2. the proportion of the frequency of each specific kind of syntactic operation to the total number of sentences written;

3. the proportion of the frequency of each specific kind of inappropriately-formed syntactic operation to the kind of operation performed;

4. the proportion of the frequency of each specific kind of inappropriately-formed syntactic operation to the total number of syntactic operations performed; and

5. the proportion of the frequency of each specific kind of inappropriately-formed syntactic operations to the total number of sentences written.

In addition, a set of proportional data will be referred to that concerned the relationships between the total number of syntactic operations, total number of inappropriately-formed syntactic operations, and total number of sentences written. This set included the following:

1. the proportion of the total number of inappropriately-formed syntactic operations to the total number of syntactic operations performed;

2. the proportion of the total number of inappropriately-formed syntactic operations to the total number of sentences written; and

3. the proportion of the total number of operations performed to the total number of sentences written.

Table 9 summarizes all the sets of proportional data that will be referred to in the remainder of this section.

Before we proceed to a description of the type and organization of the descriptive analysis, several comments about Table 9 are in order. First, the term "Adjusted Orthographic Sentence Total" refers simply to the total number of orthographic sentences (those written and punctuated by students as complete sentences) adjusted to reflect the number of run-on sentences

## TABLE 9

## PROPORTIONAL VARIABLES IN STEP ESSAY TESTS ANALYSES

| Variable | Description of Proportional Data |
|---|---|
| 1 | Total Incorrect Operations/Total Operations |
| 2 | Total Operations/Adjusted Orthographic Sentence Total |
| 3 | Total Incorrect Operations/Adjusted Orthographic Sentence Total |
| 4 | Total Hypotaxis/Total Operations |
| 5 | Total Incorrect Hypotaxis/Total Operations |
| 6 | Total Incorrect Hypotaxis/Total Hypotaxis |
| 7 | Total Hypotaxis/Adjusted Orthographic Sentence Total |
| 8 | Total Incorrect Hypotaxis/Adjusted Orthographic Sentence Total |
| 9 | Total Coordination/Total Operations |
| 10 | Total Incorrect Coordination/Total Operations |
| 11 | Total Incorrect Coordination/Total Coordination |
| 12 | Total Coordination/Adjusted Orthographic Sentence Total |
| 13 | Total Incorrect Coordination/Adjusted Orthographic Sentence Total |
| 14 | Total Nominalization/Total Operations |
| 15 | Total Incorrect Nominalization/Total Operations |
| 16 | Total Incorrect Nominalization/Total Nominalization |
| 17 | Total Nominalization/Adjusted Orthographic Sentence Total |
| 18 | Total Incorrect Nominalization/Adjusted Orthographic Sentence Total |
| 19 | Total Topicalization/Total Operations |
| 20 | Total Incorrect Topicalization/Total Operations |
| 21 | Total Incorrect Topicalization/Total Topicalization |
| 22 | Total Topicalization/Adjusted Orthographic Sentence Total |
| 23 | Total Incorrect Topicalization/Adjusted Orthographic Sentence Total |
| 24 | Total Surface Errors/Total Operations |
| 25 | Parataxis/Total Operations |
| 26 | Parataxis/Adjusted Orthographic Sentence Total |

and fragments contained within the orthographic sentences: the number of run-ons was added to the total orthographic sentences while the number of fragments was deducted from them. Second, the inappropriately-formed syntactic operations are referred to simply as "incorrect," even though this runs the risk of apparently referring to absolute standards of "right" and "wrong." We mean by the term "incorrect" only that some deviation from the written dialect of Standard American English was detected in the student's syntactic expression of particular semantic relationships. Third, the semantic relationship of parataxis has no inappropriate syntactic expression: it either exists or doesn't exist. If either a conjunctive or a restrictive relationship exists in an orthographic sentence, then parataxis does not; therefore, any sentence containing no syntactic evidence of a conjunctive or restrictive relationship (i.e., no relationship coded as either 1.1 - 1.6 or 2.1 - 2.13) is by definition paratactic, and conversely, any sentence containing such syntactic evidence is not paratactic. Therefore, only two kinds of proportional data were available for paratactic sentences: Variable 25, the proportion of parataxis to the total number of syntactic operations; and Variable 26, the proportion of parataxis in the total number of adjusted orthographic sentences. Finally, a set of proportional data was computed for the category "Surface Errors," for although a surface error is technically not an operation performed, it is nevertheless something we are interested in: what is the proportion of the total number of surface errors (all identified in the code group *6.1 - *6.9) committed by each student compared to the total number of syntactic operations he performs on each essay? Therefore, Variable 24, Total Surface Errors/Total Operations, was computed for use in the descriptive analysis to follow.

The descriptive analysis is concerned with several major trends detected in student writing through comparisons of the various sets of proportional data described above. Four of these concern themselves with descriptions of grade-level and time-point variations, while two of them deal with descriptions of variations within individual classes, selected because of some rather unusual occurrences to be described more fully when each of these trends is discussed later. The six major trends detected in the writing of the project students include the following:

1. Proportions of nominalization, extraposition, passivization and reduction increased as grade-levels increased, while proportions of parataxis, coordination and clefting decreased as grade-levels increased.

2. Contrary to our expectations, proportions of hypotaxis did not increase as grade-level increased, but remained

remarkably stable across grade-levels; however, within grade-levels there were fluctuations from one time-point to another that seemed to be due to the different kinds of semantic relationships and their corresponding syntactic operations elicited from the varying kinds of essay-topics assigned on the STEP Essay Tests.

3. Of the inappropriately-formed syntactic operations, only incorrect coordination proportions behaved as we would have anticipated: showing a steady decline as grade-level increased, and within the grade-level groups, showing a steady decline from one time-point to the next. All other syntactic operations appeared to be well under control at all grade-levels, suggesting that mastery of the hypotactic, nominalization, and topicalization operations that were performed was nearly complete.

4. Proportions of sentences without semantic-syntactic errors were fairly high, averaging about .90 for all grade-levels, while proportions of sentences without semantic-syntactic errors or surface-detail errors were about 30% lower, averaging about .59 for all grade-levels.

5. When two seventh/eighth-grade classes were re-grouped at $T_2$ according to the students' readiness to explore applications of case-grammar to semantic-syntactic relationships, students who explored these applications as described in Section Two above ("An Anecdotal Account of a Classroom Investigation of the Semantics of English Sentences") reduced their proportions of incorrect syntactic operations to the point of near-complete control. Those students who continued to study the basic case-grammar relationships as described in Section One above ("An Investigation of the Semantics of English Sentences as a Proposed Basis for Language Curriculum Materials") also reduced their proportions of incorrect syntactic operations to the same point of near-complete control as did the others.

6. Upper-elementary students in the fifth/sixth grade substantially reduced their proportions of parataxis and their proportions of surface errors over time. These reductions may have been due to special drill and practice they had which no other group to our knowledge had during the two-year development period.

Trend 1.--In developing the syntactic-semantic relationships in the earlier sections above we hypothesized that particular syntactic operations should increase as students matured, while certain others should decrease as they matured. Among those operations that we expected to decline with increased maturity were parataxis, coordination and clefting, and among those we expected to increase with increased maturity were nominalization, extraposition, and passivization. Proportionate decreases were detected in the students' syntactic operations we would have expected to decline as grade-level increased: parataxis, coordination and clefting. Proportionate increases were detected in the students' syntactic operations we would have expected to increase: nominalization, extraposition and passivization. In addition to these increases, there were proportionate increases in reductions of hypotactic and nominalization operations.

Summary of parataxis proportions.--On the average, proportions of total syntactic operations that were paratactic declined gradually across grade-levels, as did the proportions of paratactic operations in sentences. Proportions of total syntactic operations that were paratactic were highest in the fourth grade (.14, or nearly one every seven operations) and lowest in the eleventh/twelfth grade (.04, or nearly one every twenty-five operations). Proportions of parataxis in sentences also declined across grade-levels, generally speaking, although the fifth/sixth graders' average of nearly one paratactic operation every ten operations (.10) was slightly lower than the seventh/eighth graders' average of nearly one paratactic operation every eight operations (.12). Proportions of parataxis occurring in sentences also declined gradually across grade-levels, with the proportions highest in the fourth grade (.22, or nearly one paratactic operation every five sentences) and lowest in the eleventh/twelfth grade (.13, or nearly one every eight sentences).

Summary of coordination proportions.--On the average, older students produced fewer coordination operations proportionately than did younger students. Proportions of syntactic operations that were coordinations declined across grade-levels from the fifth/sixth grade's nearly one coordination every three operations (.35) and the seventh/eighth grade's nearly identical one coordination every three operations (.34) to the eleventh/twelfth grade's one coordination every five operations (.20). Generally speaking, proportions of coordinations in sentences also declined across grade-levels, although the decline at the eleventh/twelfth grade was not as sharp as it was above. Those proportions were highest in the fourth grade at nearly nine coordination operations every ten sentences (.88), and then declined in the fifth/sixth grade to slightly over eight coordinations every ten sentences (.84), dropping in the eleventh/twelfth grade to slightly under eight coordinations every ten sentences (.79).

Summary of topicalization proportions.--Students at different grade-levels produced varying amounts and types of topicalization operations. For example, senior-high students produced three times as much extraposition and passivization proportionately as junior-high students; conversely, junior-high students produced three times as much clefting proportionately as senior-high students. One out of every eleven topicalization operations (.09) in the eleventh/twelfth grade were passives, while only one out of every thirty-three (.03) in the seventh/eighth grade were passives. Similarly, one out of every thirty-three topicalization operations (.03) in the eleventh/twelfth grade were extrapositions, while only one out of every hundred (.01) in the seventh/eighth grade were extrapositions. On the other hand, one out of every ten topicalization operations (.10) in the seventh/eighth grade were cleftings, while only one out of every thirty (.035) in the eleventh/twelfth grade were cleftings. Thus, as grade-level increased, proportions of extrapositions and passives increased, while proportions of cleftings decreased.

Summary of nominalization proportions.--On the average, eleventh/twelfth graders produced more nominalization operations proportionately than did the younger students in the upper-elementary and junior-high grades. One out of every four syntactic operations (.24) in the eleventh/twelfth grade were nominalization operations, while one out of every seven (.15) in the seventh/eighth grade, one out of every six (.16) in the fifth/sixth grade, and one out of every five (.18) in the fourth grade were nominalization operations. Proportions of nominalization operations in sentences followed the same pattern: eleventh/twelfth graders averaged over nine nominalizations every ten sentences (.94), while seventh/eighth graders averaged little over three every ten sentences (.33), fifth/sixth graders nearly five every ten sentences (.49), and fourth graders little over six every ten sentences (.62). Thus, though the proportions were fairly close in the upper-elementary and junior-high grades, those of the senior-high students were the highest proportions of nominalization operations.

Summary of reduction proportions.--Generally, as grade-level increased, the proportions of total syntactic operations that were reductions of hypotactic and nominalization clauses increased. Less than one out of every hundred syntactic operations in the fourth grade were reductions; nearly one out of every fifty (.02) in the fifth/sixth and seventh/eighth grades were reductions; but slightly more than one out of every seven (.14) in the eleventh/twelfth grade were reductions. Thus successively older students wrote proportionately more reduced hypotactic and nominalization clauses than did those younger than they.

Trend 2.--In developing the syntactic-semantic relationships in the earlier sections above, we hypothesized that as parataxis and coordination declined as students grew older, hypotaxis should increase. However, on the average, all grade-level groups in our project produced about the same proportions of hypotaxis. One out of every four syntactic operations (.26) in the eleventh/twelfth grade were hypotactic operations; one out of every four in the seventh/eighth grade (.24) and fifth/sixth grade (.28) were hypotactic operations; one out of every three (.31) in the fourth grade were hypotactic. However, as Table 10 below indicates, there were fluctuations in the proportions of hypotaxis within these grade-level groups from time-point to time-point.

TABLE 10

TOTAL HYPOTAXIS/TOTAL OPERATIONS
BY GRADE-LEVEL BY TIME

| Time-Point | Grade-Level | | | |
|---|---|---|---|---|
| | 4 | 5/6 | 7/8 | 11/12 |
| Fall '67 ($T_1$) | --- | .23 | .23 | .31 |
| Fall '68 ($T_2$) | .40 | .33 | .25 | .25 |
| Spring '69 ($T_3$) | .23 | .29 | .25 | .23 |

Thus we see that there was no consistent pattern to the fluctuations within grade-levels, for while the fourth graders declined from $T_2$ to $T_3$ and the eleventh/twelfth graders declined from $T_1$ to $T_3$, the fifth/sixth graders increased their hypotaxis proportion from $T_1$ to $T_2$ but then declined to $T_3$ and the seventh/eighth graders remained at nearly the same proportion at all three time-points.

These time-point fluctuations appear to us to be due to the different kinds of essay-topics assigned: different topics elicited different kinds of semantic relationships and their corresponding syntactic operations. For example, older students produced more hypotaxis proportionately than younger students writing on different topics at $T_1$, but at $T_2$ younger students produced more hypotaxis proportionately than older students writing on the same topic. At $T_1$, each of the three grade-level groups responded to a different topic: the fifth/sixth graders to Form #4A topic, the seventh/eighth graders to Form #3A topic, and the eleventh/twelfth graders to Form #2A topic. According to the STEP Essay manual, the topics at each test-level were supposed to sample a variety of types of writing: letter writing, description of personal experience, expression of opinion on a controversial topic, etc. (15, p. 27). If the topic topics (A, B, C, D) had been distributed at each of the test-levels (1, 2, 3, 4) so that the type of writing elicited for each form was the same for every test-level, then we might have expected the proportional data for each group taking Form A (regardless of the test-level) to tell us something important about the proportion of hypotaxis that occurred at each grade-level for which we had essays. We might, for example, have been able to establish a tentative hierarchy of the stages of hypotaxis-development across grade-levels for a particular type of writing. (Of course, tentative hierarchies might have been established for the development stages of the other major syntactic operations as well.)

At $T_1$ (fall 1967) then, was there any correspondence in the topics assigned the three grades (fifth/sixth, seventh/eighth, eleventh/twelfth) that would allow us to say, even tentatively, that the proportions of hypotaxis recorded at each successive grade-level represented hierarchical stages in hypotaxis-development? The topic assigned the fifth/sixth graders was this:

> The boys and girls in your class thought they would like to have penpals--boys or girls they could write letters to in other parts of the country. Here are some of the things the class thought of to do in the first letter:
>
> Tell about yourself
> Tell about your family
> Tell about your school
> Tell what you do when there is no school
>
> Write a letter that tells about yourself to someone who does not know you. Begin your letter, Dear Pen Pal. (15, p. 10)

The topic assigned the seventh/eighth graders was this:

> A friend of yours who now lives far away will soon move into your neighborhood. He likes living where he is now, and therefore he is very unhappy about having to move. Write him a letter about the area

> in which you live, telling what you think he should know if he is to be as happy as possible in his new home. (15, p. 10)

The topic assigned the eleventh/twelfth graders was this:

> Teenagers often find their situation confusing, because they are sometimes treated as adults, sometimes as children. When should teen-agers be treated as adults? You might consider some of the following questions in making your decision:
>
> (a) Are you mature when you reach a certain age? (The government considers eighteen a satisfactory age for military service.)
>
> (b) Are you mature when you graduate from high school? (The high-school diploma indicates that you are ready for work or college.)
>
> (c) Are you mature when you have a regular job and are self-supporting? (Many high-school students have regular jobs.)
>
> (d) Are you mature when you can accept responsibility? (Some high-school freshmen are more conscientious and dependable than seniors.)
>
> When do *you* think teen-agers should be treated as adults? Give reasons for your opinion, and support it by specific suggestions or examples. (15, p. 10)

It seems clear that the topic assigned the eleventh/twelfth graders would elicit a different kind of response than those assigned to the younger students, for being asked to state one's opinion on a controversial issue and to defend it with reasons and examples would elicit more CAUSATIVE relationships than being asked to describe one's self and his surroundings, while the latter would elicit more DESCRIPTION and ENUMERATION relationships than the former. The eleventh/twelfth graders' sentences should have contained more hypotactic operations than the younger students' sentences, for CAUSATIVE relationships are restrictive ones that produce mainly hypotactic operations (*because*-clauses, *if-then*-clauses, etc.), while DESCRIPTION and ENUMERATION relationships are conjunctive ones that produce principally coordination operations. Therefore, it was not surprising that the eleventh/twelfth graders wrote one hypotactic operation every three syntactic operations (.31) while the fifth/sixth and seventh/eighth graders wrote one every four (.23). We would be unwise, however, to conclude that eleventh/

twelfth graders produce more hypotaxis than do fifth/sixth or seventh/eighth graders, since the difference in types of semantic relationships elicited by their assigned topics was probably the cause of the slightly higher proportion of hypotaxis in the eleventh/twelfth graders' sentences in our sample.

When the proportions at $T_2$ (fall 1968) were compared across grade-level groups, it appeared that there was a steady decline in proportion of hypotaxis as grade-level increases: from one every 2.5 operations (.40) of the fourth graders to one every three (.33) of the fifth/sixth graders to one every four (.25) of the seventh/eighth graders and the eleventh/twelfth graders. Again, we raised the question about the topics assigned: did they elicit the same kinds of responses from each group? The topic assigned both the fourth and the fifth/sixth graders was the same:

> In other countries, school vacations are not the same as in our country. We have a long, summer vacation and a week or two off around Christmas and Easter. In other countries, children often go to school most of the summer. They have their Christmas and Easter vacations, and maybe a vacation of two weeks in February, June, August, and October besides. Which vacation plan do you think is better? Why? (15, p. 14)

The topic assigned the seventh/eighth graders was this:

> You have received the following letter from a European boy you sometimes write to:
>
> Dear ____________,
>
> A few days ago a group of my friends were talking about Americans. Several of them said that you have very little family life because you spend so much time looking at television and going to parties that you never have any time to be at home together. One person even said that you eat meals at different times and not together at the table.
>
> Here in Europe being together as a family is very important to us. Can you tell me about family life in America so that I will know what to say to my friends who want to understand America better?
>
> Sincerely yours,
>
> Edouard

> Your friend knows English well. Answer his letter by describing life in your own family or in some family that you know well. (15, p. 14)

The topic assigned the eleventh/twelfth graders was this:

> Bob Devon, a senior at Central High, was elected secretary-treasurer of the student body by a large majority. By November, however, it is apparent to many that he has sadly neglected the responsibilities of his job. His carefree ways and good-natured excuses for letting his work slide had formerly added to his popularity. But now school business is being held up, and the accounts of the student-body funds cannot be checked because they are never up to date. Despite several warnings from the Student Council, he continues his carefree way, content with slipshod habits and a promise to clean up his work soon.
>
> What would be the best line of action to take, considering the welfare of both Bob and the school? Choose one of the following plans and write your recommendation for action. Explain why your choice has merit.
>
> (a) Start proceedings to have him removed from office.
>
> (b) Continue urging him to be prompt and accurate in writing minutes and keeping the student body's accounts.
>
> (c) Ask some efficient student to help him with his official duties until the end of school.
>
> (d) Sit it out, waiting for end of the term when new officers will be elected and a more competent person can be chosen. (15, p. 14)

Even though the overt form of the seventh/eighth graders' topic was a letter (which neither of the others were), the topics appeared to elicit the same kind of response from all students, regardless of grade-level: namely, choice of a better plan and the defense of that choice. As we noted earlier, this kind of response is likely to produce CAUSATIVE relationships whose chief syntactic forms are hypotactic (because-clauses, if-then-clauses, etc.). Since all students were responding to topics likely to elicit hypotactic operations, it seemed surprising that the fourth graders and fifth/sixth graders produced more hypotaxis proportionately than eleventh/twelfth graders. When we looked at the topics assigned these students, however, the reason the upper-elementary students were outproducing the high-school students became more apparent. The fourth and fifth/sixth graders were asked to choose between the school vacation plans in Europe and those in America and to tell why they preferred one over the other. These younger students responded by prefacing nearly every one of their reasons with some statement like "I like our (their) plan because . . . ." The frequency of because-clauses was therefore very high for these students: 34% of all the fourth graders' hypotactic operations and 23% of all the fifth/sixth graders' hypotactic operations were because-clauses. On the other hand, when the eleventh/twelfth graders responded to a choose-and-defend topic, they did not preface each of their reasons with "I choose this plan because . . . ," but instead began their essays with some statement like "My reasons for choosing this plan are these" and then took up each reason in turn with no further explicit because-clause. Therefore, the frequency of these syntactic expressions of EXPLANATORY relationships was very low, as only 9% of their hypotactic operations were because-clauses. Thus the immature habit of the younger students of expressing each reason in a because-clause created the surprisingly high proportion of hypotaxis in the sentences of the upper-elementary students at $T_2$. When the proportions were adjusted to remove EXPLANATORY operations from those proportions reported in Table 10 above, the $T_2$ proportions for these three grade-levels became very nearly alike: one hypotactic operation every four syntactic operations (.27 for fourth graders, .26 for fifth/sixth graders, and .23 for eleventh/twelfth graders).

Even though the proportions of total hypotaxis were nearly the same for all grade-levels at $T_2$, a comparison (Table 11 below) of the individual hypotactic operations making up the total hypotactic operations in the fourth grade and in the eleventh/twelfth grade illustrates the differences between the hypotaxis produced by younger students and older students. In Table 11 we see that the essential difference between the hypotaxis of fourth graders and that of eleventh/twelfth graders was that the older students performed nearly all of the possible hypotactic operations, while the fourth graders performed only about half of all the possible hypotactic operations. Furthermore, over three-fourths of all the fourth graders' hypotactic operations (77%) were accounted for by only two hypotactic operations (EXPLANATION, 34.4%, and COMPARISON, 42.6%), while no single hypotactic operation dominated the hypotactic operations of the eleventh/twelfth graders. Thus, at $T_2$ on similar essay-topics, as grade-level increased, students performed more and

## TABLE 11

## COMPARISON OF HYPOTACTIC OPERATIONS IN GRADES FOUR AND ELEVEN/TWELVE

| Hypotactic Operation | Grade-Level | | | |
|---|---|---|---|---|
| | 4 | | 11/12 | |
| Object Description/ Explication (1.2.1) | | 0.0% | | 9.7% |
| Object Restriction (2.1) | | 6.6% | | 21.6% |
| Time of Actions/ Events (2.10) | | 5.8% | | 9.7% |
| Causative | | 43.4% | | 45.7% |
| Contingent Event-Consequence (2.2) | 6.6% | | 11.7% | |
| Explanation (2.3) | 34.4% | | 9.2% | |
| Purpose (2.4) | 1.6% | | 7.0% | |
| Causation (2.5) | 0.8% | | 2.4% | |
| Real Event-Consequence (2.6.1) | 0.0% | | 6.3% | |
| Concession (2.7.1) | 0.0% | | 1.4% | |
| Instrumentation (2.12) | 0.0% | | 5.3% | |
| Degree of Intensity of Actions/Events (2.13) | 0.0% | | 2.4% | |
| Quality | | 44.2% | | 13.3% |
| Comparison (2.8) | 42.6% | | 12.6% | |
| Manner of Actions/ Events (2.11) | 1.6% | | 0.7% | |
| Total | | 100.0% | | 100.0% |

more different hypotactic operations, thereby enabling them to express with greater precision the relationships between OBJECTS, ACTIONS, and EVENTS they perceived.

When the proportions at $T_3$ (spring 1969) were compared across grade-levels, no consistent pattern emerged, except that of fluctuation beginning with a proportion of one hypotactic operation every four operations (.23) in the fourth grade, rising to one hypotactic operation every three operations (.29) in the fifth/sixth grade, and then returning to one hypotactic operation every four operations in the seventh/eighth grade (.25) and in the eleventh/twelfth grade (.23). Perhaps an examination of the essay-topics assigned each group may explain some of these fluctuations.

The topic assigned to both fourth and fifth/sixth graders was this:

> A much smaller boy or girl asks you about the moon. You say that it is far away, and you try to be funny by saying it is made of green cheese.
>
> Then you go on to talk about rocket ships that could go to the moon. The small child says, "You could make one, I bet." You say, "I did make one when I was little."
>
> Go on with the story. Try to tell a story that a six-year-old would like. How did you make a rocket ship? What did you find on the moon? How did you get back? (15, p. 16)

The topic assigned to seventh/eighth graders was this:

> You have been exchanging letters with someone your own age in England. In his latest letter, he tells you that he plans to visit the United States. Part of his letter is as follows:
>
> > "For one thing, how does your money work? I mean, what kinds of coins and bills do you have, and what do you call them? We have regular names for each, and then some names that mostly kids use. Is it that way with you?"
>
> Write him a letter which gives him the information he wants. Keep in mind the fact that he knows little about our money, but he will have to count it, spend it, and check the change he receives. (15, p. 16)

The topic assigned to eleventh/twelfth graders was this:

> Last year's student-body president came back to visit his high school just before Christmas vacation. He had just completed a term at the state university. At a regular assembly he was invited to sit on the platform and say a few words. This was his message:
>
> > "I've been down on the university campus since September and it's great. High school's all right, but college is the place for fun--fraternities, and of course sororities for the girls. Football, with rallies before and after the big games; dances and parties, and of course I got involved right away in campus politics. There's a full program of studies for everyone, too. You study there, harder than any studying you ever did in high school. But it's really the life. I'd like to leave this idea with you. Every one of you ought to go to college. I mean it--I'd like to see all high school graduates of every high school go on to college, and I know that all of you, if you get to college, you'll think it's great."
>
> How well can you analyze the speaker from what he says? Tell what you think about his temperament, his character, his ability to think. Limit your character analysis to traits which you can interpret from the direct quotation. Explain what clues led you to draw your conclusions. (15, p. 16)

It seems clear from an examination of these three topics that none of them would elicit the same kind of response from students. The fourth and fifth/sixth graders were asked to construct a narrative, and a fantasy narrative at that. The seventh/eighth graders were asked to list and describe the coins and bills in the U.S. and to explain how these are used. The eleventh/twelfth graders were asked to construct a character analysis from the direct statements of someone they've not known before. The narrative would undoubtedly elicit a lot of TIME relationships of both the conjunctive type (TEMPORAL SEQUENCE) and the restrictive type (TIME OF ACTIONS/EVENTS); therefore, both hypotaxis and coordination operations should occur in the fourth and fifth/sixth-grade sentences. However, since hypotaxis is hypothesized to occur later in the writer's development than coordination, we might expect the older students to show more hypotaxis, proportionately, than the younger students. In our sample, this is the case: the fourth graders' proportion of hypotaxis to total operations was .23, while the fifth/sixth graders' was .29.

The list-and-describe topic would undoubtedly elicit more conjunctive relationships (CATEGORY EXPANSION, OBJECT DESCRIPTION, ENUMERATION) than restrictive ones; therefore, hypotaxis should be proportionately lower than coordination in the seventh/eighth graders' sentences, although the proportion of hypotaxis need not be lower than hypotaxis proportion in the younger students' narrative sentences. Thus, the fifth/sixth graders with their slightly higher proportion on a narrative topic (.29) produced more hypotaxis proportionately than the seventh/eighth graders (.25) on a list-and-description topic.

The character analysis required of the eleventh/twelfth graders would elicit CAUSATIVE relationships in addition to ENUMERATION relationships and CATEGORY EXPANSION relationships, since each character trait they listed was to be explained and then supported with examples from the essay. Since CAUSATIVE relationships are chiefly expressed in hypotactic operations, while ENUMERATION and CATEGORY EXPANSION relationships are expressed in coordination operations, we should expect somewhat of a balance in proportions of hypotaxis and coordination in the eleventh/twelfth graders' syntactic operations. Since the eleventh/twelfth graders were writing on a distinctly different topic than were either the upper-elementary students or the junior-high students, it would be unwise to make any comparisons between the proportions of hypotaxis produced at each grade-level. Thus, no conclusions could really be drawn from the fact that fifth/sixth graders averaged one hypotactic operation every three operations, while all other grade-level groups averaged one every four operations.

Since it was only at $T_2$ that the topics assigned to all grade-level groups were similar enough to make comparisons between their proportions of syntactic operations that were hypotactic, we could only conclude that the fluctuations observed in Table 10 across time-points within grade-level groups were probably due to the different kinds of semantic relationships and their corresponding syntactic operations that were elicited from the differing kinds of assigned essay-topics.

Trend 3.--We would have expected inappropriately-formed syntactic expressions to decline as grade-level increased, as students gained increasing mastery of the syntactic expressions of the semantic relationships they were writing about. However, all but one of the syntactic operations appeared to be well under control at all grade-levels, suggesting that mastery of nearly all syntactic operations performed had been completed. For example, when proportions of nominalization operations that were incorrect were compared across grade-levels, it was clear that they were so small that comparisons would be meaningless. Less than one out of every hundred nominalizations were incorrect in the fourth grade; only one out of every hundred nominalizations (.01) were incorrect in the fifth/sixth grade; only one out of every fifty (.02) were incorrect in the seventh/eighth grade; and only one out of every hundred (.01) were incorrect in the elevent eleventh/twelfth grade. This pattern was true of the proportions of incorrect hypotactic operations and incorrect topicalization operations as well.

Further evidence that the mastery of syntactic operations was in general nearly complete at all grade-levels was the comparison of proportions of total syntactic operations that were incorrect. Proportions of total syntactic operations that were incorrect declined across grade-levels from the fourth graders' one incorrect syntactic operation every twenty operations (.05) to the fifth/sixth and seventh/eighth graders' one incorrect syntactic operation every twenty-five operations (.04) to the eleventh/twelfth graders' one incorrect syntactic operation every fifty operations (.02). Proportions of incorrect syntactic operations also declined within grade-level groups from $T_1$ to $T_3$: the fifth/sixth graders declined from one incorrect syntactic operation every thirteen operations (.08) at $T_1$ to one every fifty (.02) at $T_3$; the seventh/eighth graders declined from one incorrect syntactic operation every fourteen (.07) at $T_1$ to one every fifty (.02) at $T_3$; and the eleventh/twelfth graders declined from one incorrect operation every thirty-three (.03) at $T_1$ to one every fifty (.02) at $T_3$.

Only one of the incorrectly-formed syntactic operations was not apparently under complete control of the students at all grade-levels: incorrect coordination proportions declined steadily as grade-level increased, from the fourth graders' one incorrect coordination out of every eight coordinations performed (.13) to the eleventh/twelfth graders' one incorrect coordination out of every twenty-five (.04). Furthermore, within grade-level groups, incorrect coordination proportions declined at successive time-points: the fourth graders declined from one incorrect coordination out of every six coordinations (.17) at $T_2$ to one out of every thirteen operations (.08) at $T_3$; the fifth/sixth graders declined from one incorrect coordination out of every eight coordinations (.12) at $T_1$ to one out of every seventeen (.06) at $T_2$ to one out of every thirty-three (.03) at $T_3$; the seventh/eighth graders declined from one incorrect coordination out of every seven coordinations (.15) at $T_1$ to one out of every eleven (.09) at $T_2$ to one out of every twenty-five (.04) at $T_3$; and the eleventh/twelfth graders declined from one incorrect coordination out of every fourteen (.07) at $T_1$ to one out of every thirty-three (.03) at $T_2$ and $T_3$. Thus, we would conclude that as grade-level increased, students produced fewer coordination operations that were incorrect and that coordination operations were the last of the syntactic operations to be mastered by the students in our project.

Trend 4.--Proportions of sentences without semantic-syntactic errors were fairly high, averaging about .90 for all grade-levels, while proportions of sentences without semantic-syntactic errors or surface-detail errors were about 30% lower, averaging about .59 for all grade-levels. In the earlier Bateman-Zidonis study (13), comparison of proportions of well-formed sentences provided the most unambiguous conclusion of the study: namely, that the experimental group of ninth/tenth graders significantly increased their production of well-formed sentences over the two-year period of the study. In that study, well-formedness was very explicitly defined as the absence of malfunctions of phrase-structure rules or transformational rules and operations. For example, such surface errors as tense and modality errors, agreement, concord and government errors, word order errors, and run-on sentences and fragments were considered a malfunction of some phrase-structure or transformational operation. When careful attention is paid in a grammatical study to these surface details as part of the operation of phrase-structure or transformational rules, it is not surprising that students in the experimental class focused on those details in the careful examination of their own writing.

In the present study, no such careful attention to surface details was attempted for the focus of the study was upon the relationship between surface structure and "deep structure," between syntactic expression and semantic relationship. Therefore, when proportions of well-formed sentences were considered for the current study, it was not surprising that no dramatic differences could be detected in the production of well-formed sentences from one time-point to another. For example, when a well-formed sentence was defined as one without any inappropriately-expressed semantic relationships and not as one without any surface-detail errors, the following proportions were derived for the six seventh/eighth-grade classes at all three time-points.

From Table 12 below, we see that slight increases occur at successive time-points in all classes except Class Four-A, where the sharp decline at $T_2$ reflects the rearrangement of Classes Four and Five at the beginning of the 1968-69 school year. When Class Four-A was given specific concentrated attention to basic case-grammar relationships, they increased their percentage of sentences without syntactic-semantic errors substantially (from 70.1% at $T_2$ to 89.5% at $T_3$). When Class Five-A was given specific application of case-grammar relationships to syntactic-semantic relationships, their percentage of sentences without syntactic-semantic errors increased from

## TABLE 12

## PROPORTIONS OF SENTENCES WITHOUT SYNTACTIC-SEMANTIC ERRORS BY CLASS BY TIME (SEVENTH/EIGHTH GRADE)[a]

| Time-Point | Class Number | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1(27) | 2(30) | 3(19) | 4(25) | 5(21) | 6(38) | Mean ($\overline{X}_T$) |
| Fall '67 ($T_1$) | .832 | .842 | .878 | .831 | .860 | .872 | .853 |
| Fall '68 ($T_2$) | .861 | .900 | .910 | 4A(26)<br>.701 | 5A(20)<br>.895 | .873 | .855 |
| Spring '69 ($T_3$) | .945 | .943 | .962 | .895 | .945 | .910 | .930 |
| Mean ($\overline{X}_{Class}$) | .879 | .894 | .916 | .798 | .923 | .885 | .879 |

[a] If Classes Four and Five are combined and reported as a single class, see Table 13 below for proportions of well-formed sentences.

## TABLE 13

## PROPORTIONS OF SENTENCES WITHOUT SYNTACTIC-SEMANTIC ERRORS BY CLASS BY TIME (SEVENTH/EIGHTH GRADE)

| Time-Point | Class Number | | | | | |
|---|---|---|---|---|---|---|
| | 1(27) | 2(30) | 3(19) | 4/5(46) | 6(38) | Mean ($X_T$) |
| Fall '67 ($T_1$) | .832 | .842 | .878 | .844 | .873 | .853 |
| Fall '68 ($T_2$) | .861 | .900 | .910 | .785 | .873 | .855 |
| Spring '69 ($T_3$) | .945 | .943 | .962 | .917 | .910 | .930 |
| Mean ($\overline{X}_{Class}$) | .879 | .894 | .916 | .849 | .885 | .879 |

89.5% at $T_2$ to 94.5% at $T_3$. We also note from Table 12 that the percentages themselves were extremely high at each time-point (averaging between 85% and 93% and for each seventh/eighth-grade class (averaging between 80% and 92%, or between 85% and 92% if Classes Four and Five are combined). Thus it appears that these seventh/eighth-grade students had the syntactic expression of the semantic relationships they dealt with in the essay topics fairly well under control by the time the development period began (at $T_1$). It seems then that if their teachers said that these students couldn't "write well," they were not referring to the students' essential control of their syntactic-semantic relationships.

What they could have been referring to if they said that their students didn't "write well" is probably illustrated in Table 14 below, which contains the proportions of well-formed sentences of these same students when a well-formed sentence was defined as one without syntactic-semantic errors and without surface-detail errors.

TABLE 14

PROPORTIONS OF SENTENCES WITHOUT SYNTACTIC-SEMANTIC ERRORS AND WITHOUT SURFACE-DETAIL ERRORS BY INDIVIDUAL SEVENTH/EIGHTH-GRADE CLASS BY TIME[a]

| Time-Point | Class Number | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1(27) | 2(30) | 3(19) | 4(25) | 5(21) | 6(38) | Mean ($\overline{X}_T$) |
| Fall '67 ($T_1$) | .492 | .453 | .548 | .458 | .547 | .482 | .490 |
| Fall '68 ($T_2$) | .564 | .577 | .688 | 4A(26)<br>.444 | 5A(20)<br>.549 | .527 | .551 |
| Spring '69 ($T_3$) | .663 | .607 | .697 | .547 | .678 | .615 | .628 |
| Mean ($\overline{X}_{Class}$) | .573 | .546 | .641 | .496 | .614 | .542 | .557 |

[a] If Classes Four and Five are combined and reported as a single class, see Table 15 below for proportions of well-formed sentences.

From a comparison of the proportions in Table 12 with those in Table 14, we can see the effect that surface-detail errors had in depressing the proportions of well-formed sentences of the seventh/eighth-grade students. On the average, the proportions of well-formed sentences run about 30% lower when only sentences without syntactic-semantic errors and surface-detail errors were considered well-formed. It appears then that the seventh/eighth-grade students only wrote sentences without surface-detail errors about 60% of the time, even though those same students wrote sentences without syntactic-semantic errors about 90% of the time.

TABLE 15

PROPORTIONS OF SENTENCES WITHOUT SYNTACTIC-SEMANTIC ERRORS AND WITHOUT SURFACE-DETAIL ERRORS BY INDIVIDUAL SEVENTH/EIGHTH-GRADE CLASS BY TIME

| Time-Point | Class Number | | | | | |
|---|---|---|---|---|---|---|
| | 1(27) | 2(30) | 3(19) | 4/5(46) | 6(38) | Mean ($\overline{X}_T$) |
| Fall '67 ($T_1$) | .492 | .453 | .538 | .499 | .482 | .490 |
| Fall '68 ($T_2$) | .564 | .577 | .688 | .490 | .527 | .551 |
| Spring '69 ($T_3$) | .663 | .607 | .697 | .604 | .615 | .628 |
| Mean ($\overline{X}_{Class}$) | .573 | .546 | .641 | .531 | .542 | .557 |

When we examined the proportions of well-formed sentences at all grade-levels, we found essentially the same patterns and trends across grade-levels as those within the seventh/eighth-grade classes, as Table 16 and 17 below indicate.

TABLE 16

PROPORTIONS OF SENTENCES WITHOUT SYNTACTIC-SEMANTIC ERRORS BY GRADE-LEVEL BY TIME

| Time-Point | Grade-Level | | | | |
|---|---|---|---|---|---|
| | 4(27) | 5/6(41) | 7/8(160) | 11/12(42) | Mean ($\overline{X}_T$) |
| Fall '67 ($T_1$) | ----- | .920 | .853 | .904 | .872 |
| Fall '68 ($T_2$) | .860 | .883 | .855 | .935 | .873 |
| Spring '69 ($T_3$) | .905 | .939 | .930 | .935 | .930 |
| Mean ($\overline{X}_{Grade-Level}$) | .882 | .914 | .879 | .925 | .892 |

## TABLE 17

## PROPORTIONS OF SENTENCES WITHOUT SYNTACTIC-SEMANTIC ERRORS AND WITHOUT SURFACE-DETAIL ERRORS BY GRADE-LEVEL BY TIME

| Time-Point | Grade-Level | | | | |
|---|---|---|---|---|---|
| | 4(27) | 5/6(41) | 7/8(160) | 11/12(42) | Mean ($\overline{X}_T$) |
| Fall '67 ($T_1$) | ----- | .630 | .490 | .670 | .545 |
| Fall '68 ($T_2$) | .401 | .652 | .551 | .731 | .579 |
| Spring '69 ($T_3$) | .591 | .752 | .628 | .774 | .666 |
| Mean ($\overline{X}_{\text{Grade-Level}}$) | .496 | .678 | .557 | .725 | .599 |

Thus, in Table 16, we see that the percentages of sentences without syntactic-semantic errors ranged from 88% to 92% with no substantial differences either across time-points or across grade-levels. From Table 17, we see that like the individual seventh/eighth-grade classes, the grade-level groups were about 30% lower when only sentences without syntactic-semantic errors _and_ surface-detail errors were considered well-formed. The percentages across grade-levels ranged from 50% to 72%, averaging about 60%, when well-formed sentences were those without syntactic-semantic and surface-detail errors, and ranged from 88% to 92%, averaging about 90%, when well-formed sentences were those without syntactic-semantic errors. Thus, it appears that students at all grade-levels wrote sentences without surface-detail errors about 60% of the time, even though these same students wrote sentences without syntactic-semantic errors about 90% of the time.

_Trend 5_.--When the six individual classes making up the seventh/eighth grade were subjected to analysis of variance tests to determine if there were any significant effects due to class or to time or to any interaction effects by class by time, no pattern of significant effects emerged that was consistent for all three effects. However, we did discover that Class Four contributed a significant main effect due to class on two major sets of proportions: those dealing with total incorrect operations and those dealing with total incorrect coordination operations. Class Four also contributed a significant interaction effect by class by time by increasing its proportions of incorrect coordination operations and total incorrect operations at $T_2$ while all other seventh/eighth-grade classes were decreasing theirs. However, since Class Four and Class Five were re-grouped at $T_2$ according to their readiness for application of case-grammar relationships to semantic-syntactic relationships, it became apparent that these two classes could not be thought of as the same two classes that were analyzed at $T_1$. Rather than speaking of Class Four's increase in proportions of incorrect operations, we have re-examined the data from the two rearranged classes for $T_2$ and $T_3$, and Table 18 below presents the findings from this re-examination.

TABLE 18

COMPARISON OF RE-GROUPED CLASSES ON PROPORTIONS OF INCORRECT OPERATIONS

| Proportions | Class | | | | | |
|---|---|---|---|---|---|---|
| | 4 | 5 | 4A | 5A | 4A | 5A |
| | $T_1$ | | $T_2$ | | $T_3$ | |
| Total Incorrect Operations/ Total Operations | .07 | .07 | .11 | .03 | .04 | .02 |
| Total Incorrect Operations/ Total Sentences | .12 | .15 | .26 | .07 | .10 | .04 |
| Total Incorrect Hypotaxis/ Total Hypotaxis | .06 | .03 | .08 | .01 | .02 | .01 |
| Total Incorrect Hypotaxis/ Total Operations | .01 | .01 | .02 | .00 | .00 | .00 |
| Total Incorrect Hypotaxis/ Total Sentences | .02 | .02 | .05 | .01 | .01 | .01 |
| Total Incorrect Coordination/ Total Coordination | .13 | .17 | .18 | .06 | .07 | .03 |
| Total Incorrect Coordination/ Total Operations | .05 | .06 | .07 | .02 | .03 | .01 |
| Total Incorrect Coordination/ Total Sentences | .09 | .11 | .17 | .06 | .08 | .02 |

At $T_1$, Classes Four and Five looked very much alike on most of their proportions of incorrect syntactic operations, as can be seen in Columns 2 and 3 of Table 18. For example, both classes had the same proportion of their total operations that were incorrect (.07, or one incorrect operation every fourteen operations), the same proportion of their total operations that were incorrect hypotactic operations (.01, or one incorrect hypotactic operation every hundred operations), and nearly the same proportion of their total operations that were incorrect coordination operations (.05, or one incorrect coordination operation every twenty operations for Class Four, and .06, or one incorrect coordination operation every seventeen operations for Class Five). In proportions of incorrect syntactic operations in student sentences, Classes Four and Five also looked very much alike: both classes had nearly the same proportions of total incorrect operations in their sentences (.12, or one incorrect operation every eight sentences for Class Four, and .15, or one incorrect operation every seven sentences); both classes had the same proportions of incorrect hypotactic operations in their sentences (.02, or one incorrect hypotactic operation every fifty sentences); and both had nearly the same proportion of incorrect coordination operations in their sentences (.09, or one incorrect coordination every eleven sentences for Class Four, and .11, or one incorrect coordination every nine sentences for Class Five). At $T_2$, after the students had been re-grouped according to their readiness to pursue applications of case-grammar relationships to semantic-syntactic relationships, their proportions on these same variables were no longer similar. Class Four-A, which continued its study of case-grammar relationships, had one incorrect operation every nine operations (.11), while Class Five-A, which applied case-grammar relationships to semantic-syntactic relationships, had only one incorrect operation every thirty-three operations (.03). Class Four-A had one incorrect hypotactic operation every fifty operations (.02), while Class Five-A had considerably less than one incorrect hypotactic operation every hundred operations. Class Four-A had one incorrect coordination every six operations (.18), while Class Five-A had only one every seventeen operations (.06). In proportions of incorrect operations in their sentences, there was considerable divergence between the two classes. Class Four-A had one incorrect operation every four sentences (.26), while Class Five-A had only one incorrect operation every fourteen sentences (.07). Class Four-A had one incorrect hypotactic operation every twenty sentences (.05), while Class Five-A had only one incorrect hypotactic operation every hundred sentences (.01). Class Four-A had one incorrect coordination operation every six sentences (.17), while Class Five-A had only one incorrect coordination every seventeen sentences (.06). Thus, even though both classes looked very much alike at $T_1$, when they were re-grouped at $T_2$, Class Four-A had substantially higher proportions of incorrect syntactic operations than did Class Five-A. Apparently the re-grouping resulted in Class Four-A, which continued the study of basic case-grammar relationships, containing those students who had less control over their syntactic-semantic relationships than those who applied their study of case-grammar relationships to syntactic-semantic relationships.

Since these two classes were re-grouped at $T_2$, then we could look at their $T_3$ proportions to see if any substantial reduction in proportions of incorrect operations occurred from $T_2$ to $T_3$. A comparison of the proportions in Columns 5 and 6 with those in Columns 3 and 4 of Table 18 above reveals that it was Class Four-A that substantially reduced its proportions of incorrect operations so that on most of the incorrect operations it resembled Class Five-A, which showed no substantial reductions in incorrect operations simply because the proportions were already so low at $T_2$ that there was no room for substantial reduction. Thus, we see that Class Four-A reduced its proportion of total operations that were incorrect from one every nine operations (.11) at $T_2$ to one every twenty-five (.04) at $T_3$, while Class Five-A reduced its proportion of total operations that were incorrect from one every thirty-three operations (.03) at $T_2$ to one every fifty (.02) at $T_3$. Class Four-A reduced its proportion of total operations that were incorrect coordination operations from one every fourteen operations (.07) at $T_2$ to one every thirty-three (.03) at $T_3$, while Class Five-A reduced its proportion of total operations that were incorrect coordinations from one every fifty operations (.02) at $T_2$ to one every hundred (.01) at $T_3$. In proportions of incorrect operations in sentences, we see that Class Four-A reduced its proportion of incorrect operations from one every four sentences (.26) at $T_2$ to one every ten sentences (.10) at $T_3$, while Class Five-A reduced its proportion from one incorrect operation every fourteen sentences (.07) at $T_2$ to one every twenty-five sentences (.04) at $T_3$. Also, Class Four-A reduced its proportion of incorrect coordinations from one every six sentences (.17) at $T_2$ to one every thirteen (.08) at $T_3$, while Class Five-A reduced its proportion from one every seventeen sentences (.06) at $T_2$ to one every fifty (.02) at $T_3$. While Class Five-A maintained its very low proportions of incorrect hypotactic operations from $T_2$ to $T_3$ (one incorrect hypotactic operation every hundred sentences, .01, and considerably less than one incorrect hypotactic operation every hundred operations), Class Four-A substantially reduced its proportions of incorrect hypotaxis from one every twenty sentences (.05) at $T_2$ to one every hundred sentences (.01) at $T_3$ and from one every fifty operations (.02) at $T_2$ to considerably less than one every hundred operations at $T_3$. While Class Five-A maintained its very low proportions of hypotactic operations that were incorrect from $T_2$ to $T_3$ (one incorrect hypotactic operation every hundred hypotactic operations, .01), Class Four-A substantially reduced its proportion from one incorrect hypotactic operation every thirteen hypotactic operations (.08) at $T_2$ to one every fifty (.02) at $T_3$. Finally, Class Four-A reduced its proportion of coordination operations that were incorrect from one every six (.18) at $T_2$ to one every fourteen (.07) at $T_3$, while Class Five-A reduced its proportion of coordination operations that were incorrect from one every seventeen (.06) at $T_2$ to one every thirty-three (.03) at $T_3$. Thus, at $T_3$, Class Four-A had substantially reduced its proportions of incorrect operations so that in general it resembled Class Five-A at $T_3$ whose reductions were not as substantial simply because its proportions were already very low at $T_2$. Both classes were able to reduce their proportions of incorrect operations from $T_2$ to $T_3$ during the second development year of the project.

Since we knew what the teachers of these two re-grouped classes did with their students during this second development year, perhaps part of the reductions in proportions of incorrect operations for both classes was due to the kind of grammatic and semantic study they participated in. Class Five-A was taught by the teacher whose anecdotal account of her experience with her students is contained in Section Two of this report, "An Anecdotal Account of a Classroom Investigation of the Semantics of English Sentences." Essentially, this class had many opportunities to explore and extend the case-grammar outlined in Section One of this report, "An Investigation of the Semantics of English Sentences as a Proposed Basis for Language Curriculum Materials," and the syntactic-semantic relationships outlined in the earlier portions of this section of the report. Class Four-A, on the other hand, continued to explore extensively only the case-grammar relationships, apparently under the assumption that these students needed a firmer foundation in the case-grammar relationships before they examined the syntactic-semantic relationships. Since these students were also the ones who had less control over the syntactic-semantic relationships they dealt with in their essays, it seems that the close examination of the case-relationships of English sentences made it possible for them to substantially reduce their proportions of incorrect operations, even when they did not study those operations directly. Since the students in Class Five-A were also those who had more control over the syntactic-semantic relationships they dealt with in their essays, it seems that the close examination of semantic relationships and their corresponding syntactic forms made it possible for them to reduce their already low proportion of incorrect operations to the point that they had nearly-complete mastery of the syntactic expression of the semantic relationships they dealt with in their sentences.

Trend 6.--Upper-elementary students in the fifth/sixth grade substantially reduced their proportions of parataxis and of surface errors over time. These reductions may have been due to special drill and practice opportunities they had during both years of the development project.

### TABLE 19

### TOTAL SURFACE ERRORS/TOTAL OPERATIONS BY GRADE-LEVEL BY TIME

| Time-Point | Grade-Level | | | |
|---|---|---|---|---|
| | 4 | 5/6 | 7/8 | 11/12 |
| Fall '67 ($T_1$) | --- | .31 | .32 | .09 |
| Fall '68 ($T_2$) | .21 | .09 | .19 | .06 |
| Spring '69 ($T_3$) | .28 | .09 | .18 | .05 |

### TABLE 20

### TOTAL PARATAXIS/TOTAL OPERATIONS BY GRADE-LEVEL BY TIME

| Time-Point | Grade-Level | | | |
|---|---|---|---|---|
| | 4 | 5/6 | 7/8 | 11/12 |
| Fall '67 ($T_1$) | --- | .24 | .16 | .04 |
| Fall '68 ($T_2$) | .08 | .02 | .10 | .03 |
| Spring '69 ($T_3$) | .18 | .06 | .09 | .06 |

In Table 19 above, we see that the fifth/sixth graders showed the sharpest decline in proportions of surface errors per syntactic operation of any of the grade-level groups in our sample: from nearly one surface error every three syntactic operations (.31) at $T_1$ to nearly one every ten (.09) at $T_2$ and $T_3$. From Table 20 above, we see that they also showed the sharpest decline in proportions of paratactic operations per syntactic operation of any of the grade-level groups: from one every four operations (.24) at $T_1$ to one every fifty (.02) at $T_2$ and one every seventeen (.06) at $T_3$. We know from our observations of the fifth/sixth grade teacher's lessons during the 1967-68 school year ($T_1$ to $T_2$) that she gave her students frequent drill and practice sessions in writing sentences that illustrated the case-grammar relationships described in Section One above ("An Investigation of the Semantics of English Sentences as a Proposed Basis for Language Curriculum Materials"). From her log of lesson plans for the second year ($T_2$ to $T_3$) we know that she gave her students frequent opportunities to practice perfecting their syntactic expressions of the following semantic relationships: CATEGORY EXPANSION, OBJECT DESCRIPTION, ENUMERATION OF REFERENTS, TEMPORAL SEQUENCY, OBJECT RESTRICTION, and CAUSATION. These practice sessions included daily writing by students of sentences exhibiting the particular semantic relationship being studied; daily evaluation of the appropriateness of the syntactic form by having students examine each other's sentences and revising those syntactic expressions that had been incorrectly formed; weekly timed writing sessions in which students wrote paragraphs containing the syntactic expression of the semantic relationships being studied, followed the next week by students' evaluation of each other's paragraphs with revision of those incorrectly-formed syntactic expressions by the students working individually or in small groups. We also know from her account of the practice-sessions each year that students were drilled in the appropriate punctuation that accompanied the written expression of the various case-grammar and syntactic-semantic relationships. Therefore, the substantial reduction in proportion of surface errors from one every three operations (.31) to one every ten (.09) may have been due to the direct attention students paid to surface details accompanying the syntactic expressions they wrote at $T_2$ and at $T_3$.

These concentrated practice-sessions that this fifth/sixth-grade class experienced each year may have produced another effect: the substantial reduction of their proportion of paratactic operations from one paratactic operation every four operations (.24) at $T_1$ to one every fifty (.02) at $T_2$ and one every seventeen at $T_3$. Apparently the emphasis these students received on the writing of specific relationships resulted in their production of hypotactic and coordination operations to the exclusion of paratactic operations--i.e., to the exclusion of sentences containing no hypotactic or coordination operations. When we note that the fifth/sixth graders' initial proportion of parataxis per operation (.24) at $T_1$ was higher than the fourth graders' (.18) at $T_3$ and higher than the seventh/eighth graders' (.16) at $T_1$, we see that the extremely low proportions of the fifth/sixth graders at $T_2$ (.02) and at $T_3$ (.06) were much lower than we would have expected from them had they not had the specific drill and practice in producing non-paratactic operations in their sentences.

Conclusion and recommendations

The six major trends detected in the writing of the students in our sample, especially the first four dealing with grade-level and time-point variations for the entire sample, can only be viewed as applicable to our sample. No attempt was made within this curriculum development period to find comparable control groups to which we could administer the same battery of STEP Essay Tests our sample had been given. No attempt was made to collect from our sample writing that was done under other conditions, e.g., creative writing, writing of self-determined topics, writing of teacher-determined topics, writing of student-determined topics. Therefore, several further studies recommend themselves immediately: (1) a controlled experiment in which student-writing from a wider, more representative sample of students is secured; (2) a controlled experiment in which student-writing from a wide variety of topics is compared in order to determine the effects of conditions other than pre-determined standardized essay test topics on the kinds of syntactic-semantic relationships students produce.

It is interesting to note that, even under the very restricted writing conditions imposed by the STEP Essay Tests topics, we were able to detect tentative support for some of the most general developmental trends predicted in the hypothetical portions of this section of the report: the decline in coordination and parataxis as grade-level increased, and the increase in nominalization, extraposition and passivization. Furthermore, even though hypotaxis remained relatively stable at all grade-levels from fourth to twelfth reported in the descriptive analysis above, the older students used nearly all the hypotactic operations available in the language while the younger students confined themselves to two or three (notably because-clauses and comparison-clauses).

Even in its very primitive state, the set of syntactic-semantic relationships developed in this section can be quite useful to language teachers at all levels. For example, see the informal classroom activities that Barbara Van Horn recounts in Section Two of this report. Clearly, such an informal application of particular syntactic-semantic relationships can be utilized by any teacher and his students, for each must look at his own writing to determine just which syntactic-semantic relationships are not being used appropriately and can then apply the knowledge of these relationships contained in this section. Hopefully, this set will be expanded and amended by teachers and students exploring together the sentences they actually write.

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# APPENDIX

## SUMMARY OF SEMANTIC RELATIONSHIPS AND THEIR GRAMMATICAL FORMS

| SEMANTIC RELATIONSHIP | GRAMMATICAL FORM | ILLUSTRATIVE STUDENT SENTENCES[+] |
|---|---|---|
| I. CONJUNCTION | | |
| A. CATEGORY EXPANSION (OBJECT, ACTION, or EVENT) -- Code #1.1 | Implicit Category: | |
| | 1. (NP) $NP_1, \ldots,$ and $NP_n$ | (15) *SHE WEIGHS SEVEN POUNDS AND EIGHT OUNCES, AND HAS BLUE EYES AND BLOND HAIR. |
| | 2. (VP) $VP_1, \ldots,$ and $VP_n$ | (21) *HE HAS A VERY FUNNY PERSONALITY AND HUMORS MANY PEOPLE. |
| | 3. (S) $S_1, \ldots,$ and $S_n$ | (44) *HE IS BIG AND STRONG, HE IS VERY ATHLETIC, AND HE IS ON THE TRACK TEAM.... |

---

[+] Starred sentences originally contained some inappropriate connective(s), but for purposes of simplicity in this summary chart, we have supplied appropriate one(s). Readers should check appearance of the starred sentences in the text above if they want to see what the original sentences were.

Numbered sentences refer to student sentences in the text above; unnumbered sentences were taken from STEP essays written by project students, but not included in the text above.

Explicit Category:

| | | | |
|---|---|---|---|
| | 1. $NP \left\{\begin{array}{l}\text{for example}\\ \text{for instance}\\ \text{e.g.}\\ \text{such as}\\ \text{as}\\ \text{like}\\ \ldots\end{array}\right\} NP_1, \ldots, \text{and } NP_n$ | | WE HAVE MANY KINDS OF COINS, SUCH AS PENNIES, NICKLES, DIMES, QUARTERS, HALF DOLLARS, AND SILVER DOLLARS. |
| | 2. $VP \left\{\begin{array}{l}\text{for example}\\ \ldots\\ \text{like}\end{array}\right\} VP_1, \ldots, \text{and } VP_n$ | (71) | *HERE ARE SOME THINGS I DO: PLAY ALL SORTS OF SPORTS AND GAMES AND GO TO FAIRS AND CARNIVALS. |
| | 3. $S \left\{\begin{array}{l}\text{for example}\\ \ldots\\ \text{like}\end{array}\right\} S_1, \ldots, \text{and } S_n$ | | OUR MONEY HERE IS EASY TO COUNT; FOR EXAMPLE, WE HAVE A PENNY WITH LINCOLN'S HEAD ON IT. |
| B. OBJECT DESCRIPTION/ EXPLICATION -- Code #1.2.1 | 1. $NP_1$, (i.e.) $NP_2$, | (58) | *HE IS AT LEAST SIX NINE, I.E. SIX FEET, NINE INCHES TALL. |
| | 2. $\left\{\begin{array}{l}\text{Indef N + Relative Clause w/o commas}\\ \\ \text{Def N + Relative Clause w/commas}\end{array}\right\}$ | (65) | *HE OWNS A BOWLING ALLEY, WHICH IS A GOOD INVESTMENT. |
| -- Code #1.2.1 | | (61) | *AFTER THAT, I WOULD THEN EXPLORE THE SCHOOL, WHICH I NEVER DID BEFORE. |
| -- Code #1.2.2 | 3. $S_1 \left\{\begin{array}{l}\text{and}\\ \text{i.e.}\\ ;\end{array}\right\} S_2$ (where pronoun or identical NP in $S_2$ has referent NP in $S_1$) | (67) | *MY DAD IS A VERY HONEST MAN AND WHENEVER HE SEES SOMEONE IN TROUBLE...HE WILL HELP HIM OUT. |

| | | | |
|---|---|---|---|
| C. ENUMERATION OF REFERENTS (OBJECTS, ACTIONS, or EVENTS) -- Code #1.3 | 1. $NP_1, \ldots, \left\{\begin{array}{l}\text{and also}\\ \text{and too}\\ \text{not only}\ldots\\ \quad\text{but also}\\ \text{in addition}\\ \text{besides}\\ \text{furthermore}\\ \text{moreover}\\ \ldots\end{array}\right\} NP_n$ | (70) | *JERRY AND JEFF GO THERE AND YOU CAN MEET THEM, ALSO DONALD. |
| | 2. $VP_1, \ldots, \left\{\begin{array}{l}\text{and also}\\ \ldots\\ \text{moreover}\end{array}\right\} VP_n$ | (72) | *IN ADDITION TO BEING INVOLVED IN SPORTS HE IS VERY POLITE AND HAS A GREAT SENSE OF HUMOR. |
| | 3. $S_1, \ldots, \left\{\begin{array}{l}\text{and also}\\ \ldots\\ \text{moreover}\end{array}\right\} S_n$ | | IT SHOWED ONE PICTURE OF A QUARTER.... ALSO THERE WAS A PICTURE OF A SILVER DOLLAR .... |
| D. TEMPORAL SEQUENCE OF ACTIONS/ EVENTS -- Code #1.4 | 1. $S_1 \left\{\begin{array}{l}\text{and then}\\ \text{and now}\\ \text{and still}\\ \text{and again}\\ \ldots\end{array}\right\} S_2, \ldots, S_n$ | (76) | *THEN WE GET READY FOR FOOTBALL PRACTICE [AND] THEN WE GO TO THE FOOTBALL PRACTICE TOGETHER. |
| | 2. $VP_1 \left\{\begin{array}{l}\text{and then}\\ \ldots\\ \text{and again}\end{array}\right\} VP_2, \ldots, VP_n$ | (75) | AFTERWARD THE CHILDREN HELP THEIR MOTHER WITH THE DISHES AND THEN GO OUTSIDE TO PLAY. |
| E. CONTRAST OF REFERENTS (OBJECTS, ACTIONS, or EVENTS) -- Code #1.5 | 1. $NP_1 \left\{\begin{array}{l}\text{not}\\ \text{but (not)}\\ \text{except}\\ \text{on the other hand}\\ \text{on the contrary}\end{array}\right\} NP_2$ | | ...WE PAY 4¢ TAX ON EVERY DOLLAR WE SPEND, EXCEPT FOR FOOD ...AND LUXURY ITEMS.... |

| | | | |
|---|---|---|---|
| | 2. $VP_1 \left\{\begin{matrix}\text{not} \\ \dots \\ \text{on the contrary}\end{matrix}\right\} VP_2$ | (88) | HE IS VERY TALL BUT NOT CLUMSY FOR HIS SIZE. |
| | 3. $S_1 \left\{\begin{matrix}\text{not} \\ \dots \\ \text{on the contrary}\end{matrix}\right\} S_2$ | (83) | OTHER FAMILIES EAT TOGETHER EVERY DAY, BUT WE'RE DIFFERENT. |
| F. DISJUNCTION OF REFERENTS (OBJECTS, ACTIONS, or EVENTS) -- Code #1.6 | 1. $NP_1, \dots, \left\{\begin{matrix}\text{or} \\ \text{nor} \\ \text{either} \dots \text{or} \\ \text{neither} \dots \text{nor}\end{matrix}\right\} NP_n$ | (95) | NOT MANY STUDENTS IN A HIGH SCHOOL CAN SAY HE OR SHE IS REALLY DEPENDABLE. |
| | 2. $VP_1, \dots, \left\{\begin{matrix}\text{or} \\ \text{nor} \\ \dots\end{matrix}\right\} VP_n$ | (101) | THEN WE HAVE TIME TO DO OUR HOMEWORK OR GO OUT AND PLAY. |
| | 3. $S_1, \dots, \left\{\begin{matrix}\text{or} \\ \text{nor} \\ \dots\end{matrix}\right\} S_n$ | (103) | ONCE IN A WHILE MY FATHER MAY HAVE TO WORK LATE...OR WE'RE INVITED TO FRIENDS' HOUSES FOR DINNER. |

## II. RESTRICTION

| | | | |
|---|---|---|---|
| A. OBJECT RESTRICTION -- Code #2.1 | 1. Def N + Relative Clause w/o commas | (131) | I'VE SEEN THE HOUSE (THAT) YOU'RE MOVING INTO. |
| | 2. Indef Generic N + Relative Clause w/o commas | (169) | IT IS NOT UNUSUAL FOR A FAMILY TO SIT DOWN...AND WATCH A SHOW (THAT) THE WHOLE FAMILY CAN ENJOY. |

## B. ACTION/EVENT RESTRICTION

### 1. CAUSALITY

| | | | |
|---|---|---|---|
| a) CONTINGENT EVENT-CONSEQUENCE -- Code #2.2 | 1. $\left\{\begin{array}{l}\text{If}\\ \text{As long as}\\ \text{In case}\\ \text{Say}\\ \text{Suppose}\end{array}\right\} S_1 \text{ then } S_2$ | (209) | IF YOU ENJOY BABYSITTING (THEN) YOU CAN SURE GET JOBS ON THIS STREET! |
| | 2. $\left\{\begin{array}{l}\text{Unless } S_1 \text{ then } S_2\\ \\ \text{(Had) better } S_1 \text{ or else } S_2\end{array}\right\}$ | (229) | WE HARDLY EVER ATTEND A PARTY UNLESS IT'S A FAMILY PICNIC .... |
| | | (231) | I GUESS I HAD BETTER TELL YOU WHO YOU WILL HAVE FOR WHAT OR ELSE YOU'LL REALLY BE CONFUSED. |
| b) EXPLANATION (MOTIVATION) -- Code #2.3 | $S_1 \left\{\begin{array}{l}\text{for (the reason that)}\\ \text{because}\\ \text{on account of}\\ \text{as}\\ \text{in that}\\ \text{since}\end{array}\right\} S_2$ | (245) | I DON'T THINK #2 IS A GOOD PLAN FOR THE REASON THAT HE'S BEEN TOLD ALL YEAR TO BE PROMPT AND HE'S JUST IGNORED THE FACT. |
| | | (254) | I BABYSIT A LOT BECAUSE I LIKE THE MONEY. |
| | | (255) | AS YOU SEE, I LOVE THE WATER. |
| | | (345) | SINCE HE HAD BEEN GIVEN WARNINGS, HIS WAYS SHOULD HAVE CHANGED. |

| | | | |
|---|---|---|---|
| c) PURPOSE -- Code #2.4 | $S_1 \left\{ \begin{array}{l} \text{for (the purpose of)} \\ \text{so that} \\ \text{in order that} \\ \text{in order to} \end{array} \right\} S_2$ | (305) | ...WRITE THE DAY BEFORE YOU LEAVE, SO THAT I CAN BE READY FOR YOU! |
| | | (314) | WHEN I HAVE NO SCHOOL I GO DOWN THE BLOCK (IN ORDER) TO SEE IF MY FRIEND CAN PLAY. |
| d) CAUSATION --Code #2.5 | $S_1 \left\{ \begin{array}{l} \text{because} \\ \text{that} \end{array} \right\} S_2$ (where $S_1$ contains a VP of EMOTIONAL RESPONSE and $S_2$ can be reduced to an infinitival-clause or a gerundive-clause) | (329) | I KNOW YOU WILL BE UNHAPPY THAT YOU ARE MOVING. |
| | | (334) | DON'T BE TOO UNHAPPY ABOUT MOVING. |
| | | (335) | I AM GLAD TO HEAR THAT YOU WILL BE MOVING BACK.... |
| e) INSTRUMENTATION -- Code #2.12 | $S_1$ by (means of) $S_2$ | (338) | I GET A LOT OF MONEY BY BABY-SITTING THEM. |
| f) REAL EVENT-CONSEQUENCE -- Code #2.6.1 | 1. $\left\{ \begin{array}{l} \text{Since} \\ \text{Now that} \end{array} \right\} S_1$ then $S_2$ | (360) | ...SINCE THERE IS NO ACCURATE ACCOUNTING IT COULD BE EASY FOR ANY LOAFER TO DO. |
| -- Code #2.6.2 | 2. $S_1 \left\{ \begin{array}{l} \text{and so} \\ \text{and thus} \\ \text{therefore} \\ \text{consequently} \end{array} \right\} S_2$ | (352) | THEREFORE, I AM IN FAVOR OF LONG VACATIONS FOR HEALTH REASONS. |
| | | (357) | *THERE ARE MANY THINGS TO DO SO YOU WILL ALWAYS BE DOING SOMETHING. |

| | | | |
|---|---|---|---|
| g) DEGREE OF INTENSITY -- Code #2.13 | 1. $S_1$ so X that $S_2$ | (372) | ...WE'LL KEEP YOU SO BUSY THAT YOU WON'T HAVE TIME TO MISS YOUR OLD HOME. |
| | 2. $S_1$ X enough to $S_2$ | (378) | WHEN THE TEENAGER IS ABLE TO BUY AND SHARE IN THE COST OF LIQUOR LEGALLY, THEN HE IS OLD ENOUGH TO BE AN ADULT. |
| | 3. $S_1$ too X to $S_2$ | (384) | HE TOOK A SHOT TOO HARD AND FAST FOR THE GOALIE TO STOP. |
| h) CONCESSION -- Code #2.7.1 | 1. $S_1 \left\{\begin{matrix}\text{though}\\ \text{although}\\ \text{even though}\\ \text{even if}\\ \text{still though}\\ \text{no matter wh..}\end{matrix}\right\} S_2$ | (398) | OUR FAMILY GOES MANY PLACES TOGETHER, ALTHOUGH I SOMETIMES DON'T GO... BECAUSE I HAVE TO GO TO A FOOTBALL GAME. |
| -- Code #2.7.2 | 2. $S_2 \left\{\begin{matrix}\text{but}\\ \text{and yet}\\ \text{however}\end{matrix}\right\} S_1$ | (91) | IT IS TRUE THAT IN AMERICA WE WATCH TELEVISION AND GO TO PARTIES, BUT WE STILL HAVE TIME TO BE TOGETHER. |

2. QUALITY

| | | | |
|---|---|---|---|
| a) MANNER -- Code #2.11 | $S_1 \left\{\begin{matrix}\text{how(ever)}\\ \text{in such a way that}\\ \text{as}\\ \text{like}\end{matrix}\right\} S_2$ | (415) | *IF I SHOULD EVER BE ABLE TO COMPETE IN THE OLYMPICS, I WOULD LIKE TO EARN GOLD MEDALS LIKE HE DID. |

| | | | |
|---|---|---|---|
| | | (417) | WHENEVER HE IS ON THE COURT, HE DOESN'T ACT LIKE THE BEST PLAYER ON HIS SIDE. |
| | | (424) | ...HE WILL GLADLY HELP US ANY WAY HE CAN. |
| b) COMPARISON -- Code #2.8 | Inequality:<br>1. $S_1 \left\{\begin{matrix}\text{more}\\ \text{less}\end{matrix}\right\} \text{than } S_2$ | (448) | WHEN HE WAS ABOUT SIXTEEN HE WAS TALLER THAN A NORMAL PERSON. |
| | 2. $S_1 \text{ the } \left\{\begin{matrix}\text{most}\\ \text{least}\end{matrix}\right\} \text{that } S_2$ | (469) | HE WAS THE GREATEST BASEBALL PLAYER THAT EVER LIVED. |
| | Equality:<br>$S_1 \text{ (just) } \left\{\begin{matrix}\text{like}\\ \text{as}\\ \text{the same (as)}\end{matrix}\right\} S_2$ | (506) | ...I'D LIKE TO HAVE A GOOD PERSONALITY LIKE HIS. |
| | | (509) | ...IN MOST CASES OUR FAMILY LIFE IS VERY IMPORTANT TO US AS IT IS TO YOU IN EUROPE. |
| | | (523) | HE...IS ABOUT AS BIG AS AN OX. |
| | | (524) | FAMILY LIFE HERE IS ALMOST THE SAME AS IT IS THERE. |
| 3. LOCATION | $S_1 \left\{\begin{matrix}\text{(every)}\\ \text{where}\\ \text{(ever)}\end{matrix}\right\} S_2$ | (538) | I BET YOU COULDN'T GO TO THOSE PLACES WHERE YOU LIVE. |

| | | | | |
|---|---|---|---|---|
| | | | (539) | ...EVERYWHERE MY FATHER AND MOTHER GOES, THE WHOLE FAMILY GOES. |
| | 4. TIME | $S_1 \left\{ \begin{matrix} \text{before} \\ \text{after} \\ \text{while} \\ \text{as} \\ \text{when(ever)} \\ \text{until} \\ \text{once} \end{matrix} \right\} S_2$ | (549) | BEFORE SCHOOL STARTS HE IS GOING TO HAVE THEM CUT. |
| | | | (551) | AFTER WE'RE ALL THROUGH, WE DO OUR JOBS TOGETHER. |
| | | | (552) | WHILE WE ARE EATING BREAKFAST MY MOTHER MAKES OUR LUNCHES.... |
| | | | (555) | HE ALSO DOESN'T LIKE TO BE A BALL HOG, KEEPING THE BALL UNTIL HE SHOOTS.... |
| | | | (575) | WHEN WE WERE CAMPING, OUR FATHER HAD TO WORK. |
| | | | (576) | ...I WANT TO BE A GOOD SPORT WHENEVER I PLAY FOOTBALL. |
| III. REIFICATION | | | | |
| | A. FUTURE EVENTS | 1. Infinitive-clause | (594) | I EXPECT TO HAVE SO MUCH FUN. |
| | | | (622) | HIS SKIN IS A DEEP COPPERY COLOR, WHICH WOULD MAKE... THE GIRLS SWOON. |

| | | | |
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| | | (716) | ...HE KNEW HOW TO EXPRESS HIMSELF AND...WHAT TO SAY. |
| | 2. Modal Noun-Clause | (689) | I WISH I COULD BE TOM ULRICH. |
| B. CO-TEMPORANEOUS EVENTS | Gerundive-Clause | (630) | ACTUALLY WE DO SPEND MOST OF OUR TIME WATCHING TELEVISION. |
| | | (640) | USUALLY I AM OUT IN THE BACK YARD PLAYING GAMES WITH MY BROTHERS AND SISTERS. |
| C. PAST/TIMELESS EVENTS | 1. Factive Noun-Clause | (673) | BOB KNOWS (THAT) HE ISN'T DOING A GOOD JOB.... |
| | 2. Circumstantial Noun-Clause | (709) | ...I WOULD LIKE TO KNOW WHERE THEY GOT THEIR INFORMATION. |
| | | (713) | I LIKE THE WAY (THAT) MR. ANDERSON TEACHES US SCIENCE AND SPELLING. |

| SURFACE STRUCTURE VARIATION | GRAMMATICAL FORM | ILLUSTRATIVE STUDENT SENTENCES[+] |
|---|---|---|
| IV. TOPICALIZATION | | |
| A. EXTRAPOSITION | REIFIED EVENT + VP (JUDGMENTAL) --> "IT" + VP + REIFIED EVENT | (731) IT IS IMPORTANT TO BE TOGETHER IN OUR COUNTRY TOO. (TO BE TOGETHER IS IMPORTANT IN OUR COUNTRY TOO.) |
| | | (735) IT IS NICE HEARING FROM YOU AGAIN. (HEARING FROM YOU AGAIN IS NICE.) |
| | | (738) ...IT'S KIND OF OBVIOUS (THAT) BOB DIDN'T KNOW TOO MUCH. (THAT BOB DIDN'T KNOW TOO MUCH IS KIND OF OBVIOUS.) |
| B. PASSIVIZATION | $NP_1 + V + NP_2 \dashrightarrow NP_2 + \begin{Bmatrix} BE \\ GET \end{Bmatrix} -EN + V \ (BY + NP_1)$ | (747) HE IS RESPECTED A LOT BY GROWNUPS. (GROWNUPS RESPECT HIM A LOT.) |
| | | (760) HE DIDN'T GET PICKED BECAUSE OF THE JOB.... (THEY DIDN'T PICK HIM BECAUSE OF THE JOB.) |

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[+] Surface-structure variation is given first in these illustrative sentences; the straightforward representation is given in parentheses following each example.

C. CLEFTING

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| a) "IT"-cleft | "IT" + BE + X + (THAT) Y | (764) | IT MAY BE THAT IT'S HIS FIRST YEAR AWAY FROM HOME...THAT MADE HIM FORGET HIS PURPOSE IN BEING THERE. (THE FACT THAT IT'S HIS FIRST YEAR AWAY FROM HOME MADE HIM FORGET HIS PURPOSE IN BEING THERE. |
| b) "THING"-cleft | THE THING (THAT)<br>THE REASON (THAT/WHY)<br>THE PERSON (THAT/WHO)<br>WHAT (IT IS THAT)<br>X + BE + (THAT) Y | (767) | THE BEST THING (THAT) I THINK SHOULD BE DONE IS PLAN #1. (I THINK THAT IT IS BEST THAT PLAN #1 SHOULD BE DONE.) |
| | | (776) | THE PERSON (THAT) I ADMIRE IS JOE CASH. (I ADMIRE JOE CASH.) |
| | | (782) | THE REASON WHY I'D LIKE TO BE HIM IS THAT HE IS RESPECTED A LOT BY GROWNUPS. (I'D LIKE TO BE HIM BECAUSE (FOR THE REASON THAT) HE IS RESPECTED A LOT BY GROWNUPS.) |
| | | (771) | THAT IS WHAT (IT IS THAT) I CALL FUN. (I CALL THAT FUN.) |

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|---|---|---|---|
| c) "THERE"-cleft | $\left\{\begin{array}{c} \text{THERE + BE} \\ \left\{\begin{array}{l} \text{IT} \\ \text{WE} \\ \text{YOU} \\ \text{THEY} \end{array}\right\} \text{+ HAVE} \end{array}\right\} \underline{\text{X}} \text{ + (THAT/WHERE) } \underline{\text{Y}}$ | (793) | THERE IS A DRIVING RANGE WHERE EVERYBODY GOES ON THE WEEKEND. (EVERYBODY GOES TO THE DRIVING RANGE ON THE WEEKEND.) |
|  |  | (808) | ON THE STREET WE HAVE A CLUB (THAT IS) CALLED "THE BLACK CAT." (A CLUB ON OUR STREET IS CALLED "THE BLACK CAT.") |
| d) "POSSESSION"-cleft | $\left\{\begin{array}{l} \text{I, WE} \\ \text{YOU} \\ \text{HE, SHE,} \\ \text{IT, THEY} \end{array}\right\} \text{HAVE + } \underline{\text{X}} \text{ + (THAT) } \underline{\text{Y}}$ | (830) | ROXANNE HAS A LOT OF FRIENDS THAT SHE WILL PROBABLY INTRODUCE YOU TO. (ROXANNE WILL PROBABLY INTRODUCE YOU TO A LOT OF HER FRIENDS.) |